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ORIGINAL LECTURES.

CLINICAL LECTURE

ON THE INFLAMMATORY ORIGIN OF PHTHISIS.

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I HAVE at present under my care in the women's medical ward of this hospital several cases of phthisis in different stages, and I intend to occupy your time during the coming hour with the consideration of some of the forms of disease comprehended by the term. Most if not all of the cases have originated in previous inflammation of the lung; and the part played by this important process in the production of phthisis will occupy our attention particularly to-day.

Nearly thirty years ago Dr. Thomas Addison wrote that *inflammation constitutes the great instrument of destruction in every form of phthisis*, and a very similar opinion appears to have been entertained by Dr. C. J. B. Williams; but so remarkable was the influence exerted by the great Laennec upon the medical mind that his dogma that the peculiar lesion of phthisis consists of the deposition of tubercle, or, in other words, of an adventitious product in the lungs, has been very generally accepted until quite a recent period, when attention was again called to the inflammatory origin of many cases of phthisis by Niemeyer and other German pathologists, whose writings would have undoubtedly attracted less attention had those of Dr. Addison been better known. The case which I have brought into the amphitheatre to-day is, I think, an interesting one, because up to the time the hemorrhage occurred the patient believed herself, and was thought by her friends to be, in perfect health; and we have therefore before us one of those rare cases in which hemorrhage is the first symptom, if not, as I am disposed to think, the exciting cause, of the disease from which she is now suffering.

Without further prelude, I will read the notes of the case, which have been very carefully drawn up by the resident physician, Dr. George S. Gerhard:

Margaret K., aged 27, an Irish domestic, and free from any known hereditary taint, was admitted November 18, 1871. She has been the mother of two children, one of whom is now living; the other died in infancy. Her husband died four years ago, of phthisis.

She states that she enjoyed good health until nine months before her admission to the hospital, when she suddenly and without any premonition whatsoever, while riding in a street-car, coughed up a large amount of frothy red blood. Two days afterwards a second hemorrhage occurred, and two weeks after this again there occurred a third. The blood on these two latter occasions was dark and partially coagulated, and the quantity as compared with that of the first hemorrhage was small. At the time of the occurrence of the first hemorrhage she was suffering from amenorrhœa, and since then the menses have been scanty and irregular in their recurrence.

These hemorrhages were not followed immediately by any marked symptoms. After the lapse of several weeks, however, the patient began to suffer from pulmonary and digestive symptoms. The pulmonary symptoms were a dry cough and a certain amount of dyspnœa on exertion; the digestive symptoms were those of ordinary dyspepsia, accompanied by frequent paroxysmal attacks of sharp lancinating pain, referred to the region of the stomach. The pain was invariably relieved by pressure and hot drinks.

On admission, the patient is anæmic, but in tolerably good flesh. Her tongue is furred, her appetite is poor, and her bowels are rather obstinately constipated. Her cough, which except at night is not very troublesome, is attended by a rather scanty and somewhat viscid expectoration. She does not sweat at night.

Physical examination of the chest reveals an absence of depression of the supra- and infra-clavicular spaces upon either side; there is slight dulness on percussion over and below both clavicles as far as the second rib; there is also slight dulness in the superior scapular region of the left side; the vocal fremitus is more marked below the right than below the left clavicle. Posteriorly there can be detected no difference in the vocal fremitus upon either side.

Fine moist crackling sounds are heard below the left clavicle on deep inspiration; the same sounds, though fewer in number, are heard below the right clavicle when the patient is made to cough, but not on ordinary deep inspiration. The respiration below the left clavicle is broncho-vesicular. Posteriorly in the superior scapular region of the left side coarser crackling sounds are heard.

Cod-liver oil, ℥ss three times daily, and a cough-mixture, were prescribed for the patient.

On the 23d, A.M., temp., 98½°; pulse, 80; resp., 24; P.M., temp., 99½°; pulse, 100; resp., 28.

24th.—A.M., temp., 98°; pulse, 100; resp., 24. P.M., temp., 99°; pulse, 84; resp., 32.

25th.—A.M., temp., 98½°; pulse, 80; resp., 32. P.M., temp., 100°; pulse, 88; resp., 32.

26th.—A.M., temp., 99½°; pulse, 76; resp., 28. P.M., temp., 99½°; pulse, 92; resp., 24.

27th.—A.M., temp., 99°; pulse, 84; resp., 32. P.M., temp., 99°; pulse, 92; resp., 32.

28th.—A.M., temp., 98°; pulse, 84; resp., 24. P.M., temp., 98½°; pulse, 92; resp., 28.

29th.—A.M., temp., 100°. P.M., temp., 99°.

30th.—A.M., temp., 98°. P.M., temp., 98°.

Our patient is free from any hereditary predisposition to phthisis, and I can find in her history no other exciting cause of the disease than the first hemorrhage, which took place about nine months before her admission into my wards, and which was probably vicarious, since she was suffering from amenorrhœa at the time. The blood which was expectorated on the two subsequent occasions was dark and partially coagulated, and it is possible that it had been left by the first hemorrhage in the bronchial tubes and air-cells. There can be no doubt that this blood acted as an irritant to the pulmonary tissue, and that the symptoms which were soon afterwards complained of were due to a pneumonia. Against the view that blood is capable of causing inflammation it might be objected, as Dr. Williams has recently done, that blood may be effused into the peritoneal cavity without giving rise to peritonitis; but, independently of the fact that I have often noticed an exacerbation of temperature immediately after a hemorrhage, I do not think there is any analogy between a closed sac and the bronchial tubes and air-cells. In the former the blood is protected from the influence of the air; in the latter, decomposition must inevitably take place.

I do not, of course, think that this patient has had an attack of what is ordinarily termed pneumonia, in which there is an exudation into the air-cells of a fibrinous and highly-coagulable material, and which to distinguish it from other forms is called pneumonia crouposa. It is more probable that the inflammation has been of the variety known as pneumonia catarrhalis, in which there is a rapid production of cells and little or no exudation of fibrin, and which has a tendency to affect isolated lobules in the upper lobes of the lungs, and to occur in persons of little vital resistance. These two forms of pneumonia do not differ from each other quite so much as might at the first appear, the difference consisting rather in the constitution of the patients in whom it occurs than in the morbid process itself. The exudation

of fibrin in the sthenic form probably depends upon the vitality of the white corpuscles, since recent researches tend to show that fibrin is formed either directly from the white corpuscles or from a substance derived from them. The absence of fibrin from an exudation containing a large number of leucocytes is proof, therefore, that the latter were incapable of elaborating it. An inflammatory exudation occurring in a healthy person will generally be followed by suppuration whenever from the violence of the inflammation, or from any other cause, fibrin is not formed in large amount from the corpuscles; but the same causes will in a weakly patient, directly or indirectly, cause its caseous degeneration, for there is little question that when leucocytes are retained within the body, as is the case in catarrhal pneumonia, the amœboid movements within them are arrested, and their death speedily follows.

It is the catarrhal form of pneumonia which is most frequently followed by phthisis; but this may in some instances be the termination of the more sthenic variety. When resolution does not occur, the products of the inflammation may undergo what is known as the caseous degeneration, in which the cells and their nuclei will be found under the microscope to have become contracted, and the cells to have a tendency to arrange themselves in masses,—effects, probably, of the withdrawal of water, and of the interference with nutrition which the presence of so large a number of cells must occasion. The macroscopic appearances are so well known that it is unnecessary to describe them. The disease may be arrested at this point, and the caseous masses may remain unaltered in the lungs for years, or it is even possible that they may undergo fatty change and so be absorbed. Much more frequently, however, the tendency is to further change, and they give rise by pressure to the death of the tissue which immediately surrounds them. Hence we have softening of the exudation and its elimination, during which processes cavities in the lungs are formed. Their presence also excites an increased growth of connective tissue, to which many of the physical signs relied upon in the diagnosis of phthisis are directly owing.

The catarrhal form of pneumonia is not admitted by all authors, but there can be no doubt that it really exists; and we have in the inflammation of some of the other tissues a very analogous process. For instance, in pleurisy we may have a highly fibrinous exudation, accompanied by little or no apparent cell-growth and by very little serous effusion, or on the other hand the exudation may contain a very large number of corpuscles and scarcely any fibrin. The latter is more apt to occur in persons of a weakly habit, or in those who have been debilitated by previous sickness. In adenitis, also, there may be great swelling, redness, and pain, and then a rapid breaking down of the inflammatory products into pus; or we may have a slower process, in which there is increased production of cells, a hyperplasia of the gland, and then instead of suppuration we may have caseous degeneration taking place. All of you have seen patients with enlarged glands in the neck which have undergone this alteration, and which occasion no irritation, and have been tolerated for years. At last inflammation may be set up in the tissue surrounding the gland, by which it is softened and eliminated. I believe we will find the latter illustration of use to us in the study of the pathology of phthisis. It not uncommonly happens that a patient who has had catarrhal pneumonia preserves, as a result of that process, a certain amount of dulness under one or both clavicles, together with some harshness and elevation of pitch of the respiratory sounds. In such a patient we may be almost certain that there are caseous masses in the upper part of one or both lungs, and that these are occasioning no irritation. If, however, we have in addition to the above signs moist crackling, we may diagnosticate the occurrence of softening and elimination of this foreign matter. To this softening and elimination is in many cases to be traced the further extension of the disease, as they can scarcely take place without exciting a certain amount of inflammation in the adjacent lobules of the lungs.

The patient before you, if we may accept the history she gives us and the deductions I have drawn from it as correct, is now affected with phthisis, and, if I interpret the physical signs properly, the stage of softening has been reached. This is shown by the moist crackling sounds which are heard when a full inspiration is taken, or after coughing; but these sounds are heard only under these circumstances, and this proves to me that the softening has not yet advanced to any great degree, and affords me some ground for a favorable prognosis in this case. I regard also as favorable the low temperature which has been almost constantly observed, and the absence of colliquative sweats, of the characteristic sputa, and of any very great degree of emaciation.

A knowledge of the true pathology of a disease is necessary to a physician, to enable him not only to treat it intelligently, but to take such precautionary measures as will prevent its occurrence in persons predisposed to it. I have attempted to show that phthisis is frequently the consequence of a previous inflammation. This, it should be remembered, may sometimes commence as a moderate bronchitis, which by extension may subsequently involve the alveoli and become a catarrhal pneumonia. The popular idea on this point, as Niemeyer has pointed out, is more correct than that held by most physicians. The books tell us that phthisis commences with a dry hacking cough; our patients, that their consumption has arisen from a neglected cold or catarrh. Knowing this fact, we look upon catarrh in a patient predisposed to phthisis as a disease requiring care and attention; and if the patient receive these, the disastrous consequences which might otherwise occur are avoided. There is therefore a stage previous to that known as the stage of deposition,—a stage which it is important to recognize, in order that the proper treatment may be adopted at a time when there is most reason to believe that it will arrest the morbid process, and which physicians have overlooked simply because they believe that indurations of the lungs which cannot be traced to sthenic pneumonia must of necessity be due to deposition of tubercle.

The objection that the adoption of the theory of the inflammatory origin of phthisis might lead to errors of practice, by the substitution of an antiphlogistic treatment for that now generally in use, seems to me scarcely worthy of serious consideration. It is not the fashion at the present day to treat any form of inflammation by the abstraction of large quantities of blood or by any depressing remedies; and no one who bears in mind the typhoid tendencies of catarrhal pneumonia is likely to have recourse to any plan of treatment which is apt still further to debilitate the patient. Besides which, phthisis is not an inflammation, but the consequence or sequel of an inflammation, calling most unmistakably for the employment of tonics, stimulants, and nutrients. These are the remedies I have prescribed in this case, and under their use some improvement in the general symptoms and physical signs has already been noted.

M. MICHAELIS (*Annales de Dermatologie et de Syphiligraphie*, 3me année, No. 1; from *Fiornale italiano delle Malattie venere*, etc.) calls attention to the fact that the lesions produced by syphilis in old people may sometimes simulate cancer.

ORIGINAL COMMUNICATIONS.

ON CERTAIN HUMAN PARASITIC FUNGI, AND THEIR RELATION TO DISEASE.

BY JOSEPH G. RICHARDSON, M.D.,

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Read before the Biological and Microscopical Section of the Academy of Natural Sciences, and ordered to be published. (*See p.* 193.)

A KNOWLEDGE that there do actually exist such unquestionable parasitic diseases as the potato-rot in the Vegetable kingdom, and the muscardine of silk-worms in the Animal, has for many years led reflecting minds in the medical profession to reinvestigate, from time to time, ancient stocks of information, and to search after new facts in the relation of the lower to the higher organisms, of which we ourselves form so important an integral part, in order to discover whether analogues of the disorders named above are also to be found among the maladies to which humanity is subject.

Nor have these researches been by any means unfruitful; for although the observations of Hallier on cholera and typhoid fever, Salisbury on ague and small-pox, etc., are doubted or even ridiculed by a majority of the pathologists and microscopists in this country and Europe, on the other hand the experiments and deductions of Schoenlein, Gruby, Bennett, and Tilbury Fox, in regard to Favus and the whole group of parasitic cutaneous affections, are now fully accepted by most scientific physicians, and are contested by so small a number of medical men that, although this scanty minority is headed by the famous authority in dermatology, Erasmus Wilson, our doctrine of the existence of dermatophytic disorders in the human race may be considered to-day fairly established.

As I have elsewhere remarked, however, we see, at present, in regard to Favus and its congeners, the same old battle fought which fifty years ago was so strenuously contested by Biett and Morgagni on the one hand, and the microscopists on the other, in relation to Scabies, now universally admitted to be due to a minute insect, the Acarus scabiei; and for the student of human nature it is a most interesting confirmation of the wise king's dictum, "There is no new thing under the sun," to observe how the same doubts, followed by the same objections, were urged against the parasitic character of the itch, that are now put forward in opposition to the vegetable nature of Ringworm or Favus. Thus, Biett, Cazenave, Lugol, and others denied that even with the aid of microscopes of high power any insect whatever could be discovered. When by a succession of lucky accidents so many observers blundered into seeing the Acarus that this position was no longer tenable, opponents of the parasitic theory changed their base of operations, and, admitting the occasional existence of the insect, stoutly maintained that instead of being the *cause* of Scabies it was a secretory product of that affection, and by no means a constant one. Finally, when the *proof* became incontestable that the whole disease could arise from the deposit of a single itch-insect upon the skin of a previously healthy person, the anti-microscopists took refuge for years in the assertion that in such cases "the insect taken from the scabious vesicle, *being charged with the virus,—the fluid of the vesicle,*—by penetration of the cuticle inserted this virus, and produced the disease, like the inoculation of cowpox:" certainly a most plausible and ingenious invention, and one which, however improbable observed facts might render it, was nevertheless from the nature of things extremely difficult to disprove absolutely.

As an admirable example of the vegetable human parasites, I have the good fortune of being able to present for your inspection this evening a beautiful specimen of the Microsporon furfur, the fungus of the cutaneous disease known as Tinea versicolor, or Chloasma. It shows in a very distinct manner the groups of spores clustered together like bunches of grapes, and also the mycelial threads of the growth, which ramify among the epithelial scales of the skin where they flourished.

The case from which this was derived was that of a Belgian named August K——, about forty years old, who was admitted into the Pennsylvania Hospital on the 29th day of June, 1871. He had been for some time a sufferer from syphilis, and at the date of entrance into the hospital exhibited deep cicatrices of rupia upon his legs. The eruption of Tinea occupied almost the whole anterior surface of the chest and upper part of the abdomen, but yielded readily to the application of an alkaline wash after its true nature was discovered. In this instance the complaint assumed, in its macroscopic as well as its microscopic characters, almost a typical form, since Dr. McCall Anderson, one of the most recent English authorities upon the subject, in his excellent manual of skin diseases observes that Tinea versicolor generally makes its appearance in little spots about the size of a pin's head, which gradually increase in size, retaining their circular form, but not healing in the centre, as is the case with ringworm. Gradually these spots unite, forming upon the trunk large irregular patches, near the edges of which we may usually detect small spots of eruption, which are very characteristic. The skin of the affected surface is scarcely if at all elevated above the surrounding parts, but is less smooth than in health, and is frequently the seat of a very fine desquamation, so fine as to resemble dust, and having a slight yellowish tint. The itching is generally moderate, sometimes almost absent, and occasionally very severe, although not specially aggravated at night.

The method of demonstrating the parasitic growth in this instance, when it was first detected by Dr. G. S. Gerhard, Resident Physician to the Pennsylvania Hospital, is quite simple,—a few fragments of the light-yellowish scales being merely scraped off the anterior surface of the man's thorax with a sharp scalpel, and examined in liquor potassæ, or, as was done with this particular specimen for convenience in mounting, in the saturated solution of the acetate of potash. In some other forms of dermatophytic disease, however, the recognition of a fungus is no easy problem, and the most careful investigation is necessary to insure success.

Dr. Tilbury Fox, in the last American edition of his work on Skin Diseases, New York, 1871, remarks:

"Many persons find the discovery of fungi in parasitic disease a difficult matter. The reasons for their non-detection are mainly as follow: 1st, from having too large a mass under examination. Thin sections or layers of epithelium or hair should be taken. 2d, the non-use of reagents to render the suspected tissues more or less transparent. 3d, too much manipulation. In this way spores are sometimes rolled up as it were in epithelial layers, or softened and altered by reagents and thus concealed. 4th, the presence of pigment in large quantity. 5th, ill selection of hairs and scales. We may possibly extract for examination a healthy hair which stands in the midst of diseased ones; diseased hairs are loosened in the follicle, and altered in texture, dry and brittle. 6th, the fungus may be left behind in the follicle, the hair coming away without it. 7th, secondary changes are often mistaken for the real disease; scales may result from the irritation of a fungus not in them, but in parts near, and its absence from the same scales is no sign that the parasite is not the indirect cause of the scaliness. 8th, the stromal minute form is mostly overlooked."

As before mentioned, the patient from whom was taken the fungus I have now beneath the microscope upon the table, had a syphilitic history, and only by

means of microscopic examination were we able to determine whether this eruption was specific in its character. Similar instances appear to be not unusual, for Dr. Fox observes, "I am constantly in the habit of seeing patients with Chloasma (Tinea versicolor) who have been treated vigorously for secondary syphilis. Such a mistake ought not to occur; it is generally when the chloasma is extensive that the error is made, but syphilis never produces a wide-spread fawn-colored staining like chloasma, and is never elevated and desquamating. The grand point of diagnosis between the two affections is the presence of the fungus in Tinea versicolor, and its absence in syphilitic disease."

As to treatment of this affection, the same author says, "I have one mode, and it is always successful. I apply a weak alkaline solution first of all, or wash with yellow soap, then sponge with a little weak vinegar and apply freely a lotion composed of four drachms of hyposulphite of soda and six ounces of water. A hyposulphite bath once or twice, if the case be obstinate, will aid somewhat; but I never require much else than this for any case."

Passing now to a more general consideration of the human parasitic fungous diseases, we are met at the threshold of our inquiry by the discussion of a very important and much-mooted point in phyto-pathology, analogous to that I have already mentioned as forming some twenty years since an epoch in the history of Scabies: to wit, whether the vegetable organisms revealed by microscopic examination are primary causes of the inflammation, the itching, the loss of hair, etc., which they accompany, or whether these lesions are the results of some constitutional malady, which gives rise *also* to such local pathological changes in the tissues as permit the accidental development of the parasitic organisms. A few moments' reflection will suffice to convince us that this question is one of exceeding difficulty, and in fact I think it must be admitted that we have as yet been able to establish only a very strong probability in favor of the former of these views. Among the most conclusive arguments in support of such a doctrine—to wit, that parasitic fungi are the causes and not merely the accidental concomitants of the disease in which they are found—may be mentioned: *First*, their eminently contagious nature, as proved by the experiments of Dr. Hughes Bennett, wherein the spores and mycelial threads of the Acherion Schoenleinii transferred from the head of a patient affected with Favus, produced that disease upon his own arm and upon those of several gentlemen among his students. *Second*, the fact that these maladies are not merely contagious, but also infectious, and may be conveyed from one person to another by means of the spores which float in the air for a distance of at least several feet. *Third*, the prompt subsidence of the malady when complete destruction of the fungous growth by means of parasiticides is effected; and last, but not least, the remarkable experiment of Dr. Tilbury Fox, in which he transplanted a hair which was plucked from a patient affected with ringworm, and contained a few fungus-spores, to the rind of a lemon, which furnished sufficient moisture to keep it alive and allow it in its turn to nourish the parasitic Tricophyton that it contained, until splitting up of the hair was effected,—thus actually producing the *characteristic lesion* of Ringworm *out of the body*.

Dr. Tilbury Fox further remarks that—

"There is no difficulty in accounting for the access of germs to living bodies, for these germs are freely distributed and disseminated through the air. The best illustration of this fact may be noted in the experiments of M. Borzin (*Gazette Méd. de Paris*, July 30, 1864), which consisted in passing currents of air over the head of a favus patient, and thence over the open mouth of a jar containing ice. The ice cooled the air, causing the deposition of moisture, in the drops of which the acherion sporules were detected. The same thing may be shown by holding a moistened glass slip near the head of a patient, and just rubbing his scalp freely. Of course, actual contact is much more effectual in the implantation of germs. Let us suppose that the sporular elements find their way to the human surface; how do they get beneath the tissues? Various ways, probably. The fungus-elements may enter by fissures or natural orifices; for example, in ordinary ringworm the sporules lodge themselves at the opening of the hair-follicles, and presently get beneath the epithelial scales. The growing mycelial thread forces itself beneath the layers of the superficial tissues, processes may shoot out from the spores themselves and enter beneath the epithelium, the spores may be enveloped and carried bodily inwards, or enter by traumatic lesions, as is said to occur in Madura foot. In each and every instance the germs of parasites are derived *ab externo*, and not generated *spontaneously*.

"There is yet one category of facts that needs a word or two of comment,—viz.: the comparative pathology or the inter-transmission of parasitic (vegetable) maladies. It is now admitted that the transmission of the common ringworm of the surface, from animals to man, is very common. I am informed upon good authority that this is of very frequent occurrence in Australia, the milkers of cows, especially, being largely affected. Professor Gerlach has noticed it in dogs, horses, and oxen, and in man, but the sheep and pig seem to offer exceptions. Dr. Frazer (*Dub. Quart. Journ. of Med. Science*, May, 1865) contributed a paper,—'Remarks on a Common Herpetic Epizootic Affection, and on its Alleged Frequent Transmission to the Human Subject,'—containing cases. This gentleman quotes Mr. Brady and Mr. Whitla in reference to other instances. Dr. Fehr has noticed in Switzerland the transmission from cattle to man. I can confirm by my own experience the truth of these statements. Mice and cats affect man; mice with favus can communicate the disease to the cat, and the cat may give favus, or even tinea circinata subsequently, to the human subject."

Dr. R. Cresson Stiles reports in the New York *Medical Record*, vol. ii. p. 340 (1868), some interesting examples of Tinea observed in mice, from which the disease could readily infect cats and through them our own species, as probably took place in a case of Ringworm occurring some years since in my own practice.

But if, as is now generally conceded, fungous growths similar to that I have just shown you do flourish and produce disease whilst ramifying through and between the epithelial cells of the skin and of the mucous membranes, as in Aphthæ, what valid reasons can be *a priori* urged against a belief that they may also develop among the cellular elements of the connective and muscular tissues; or even, if we adopt Prof. Virchow's definition that the blood is "a tissue of cells with a liquid intercellular substance," why may they not live and grow more or less luxuriantly in the liquor sanguinis, especially as it slowly permeates the capillaries and smaller veins?

That such is actually the case I think we have a large amount of evidence to prove; and one of my objects in the present paper is to lay before you some of the accumulated testimony upon this point, leaving, with one exception, any deduction from the fact—if fact it is accepted to be—for future consideration.

Prof. Lionel S. Beale, whose antagonism to the so-called germ-theory of disease is so well known that few will decline to admit as literally true any statements he may make sustaining the views its advocates hold, observes on p. 66 of his late work entitled "Disease Germs: their Supposed Nature" (London, 1870), "In many very different forms of disease these germs of Bacteria and probably of many fungi are to be discovered in the fluids of the body, but the evidence yet adduced does not establish any connection between the germs and the morbid process. In Plate IV. these minute organisms are represented in the contents of the alimentary canal and in the interior of the epithelial

cells of the mucous membrane of the intestine in cholera. In the contents of the blood-vessels of the same disease, and in the blood taken from the vessels almost immediately after death of animals destroyed by cattle-plague and other fevers, similar bodies have been found, though probably not of exactly the same kind in every case. . . . Sometimes these germs grow and multiply in a secretion not perfectly healthy before it has left the gland-follicles, and they have been detected in the milk as it issued from the breast, in the saliva, in the bile and urine, as well as in other secretions. It will no doubt be said in all these cases, 'the germs have been introduced from without,—they pass from the air into the orifice of the duct, and thus make their way to the gland. From this point they might readily pass into the blood.' But it is more likely they are in the blood and in the tissues at all times. They are met with in the blood especially in some instances in which there is no reason whatever for concluding they made their way into this fluid shortly before they were found. Nay, little particles may be seen in the circulating fluid which I believe to be these lowly germs, ready to grow and multiply whenever the conditions become favorable. I have seen such particles adhering to the surface of the white blood-corpuscles, and also to the red blood-corpuscles."

Prof. H. C. Wood, Jr., of this city, another able opponent of the germ-theory of disease, in his excellent article "On the Production of General Diseases by Organic Entities," remarks, "Whether the views of Prof. Wyman [regarding putrefaction] be correct or not, it is certain that under ordinary circumstances vibrios, etc. are always the accompaniments of putrefaction, and may frequently be found in a fluid before it has undergone more manifest changes. In the *milzbrand* of domestic animals and its probable derivative in man, *malignant pustule*, these bodies have frequently been found in the blood, but are said not to be present in all cases, and when present to be of fatal significance. *A priori* reasoning suggests that their spores are of very necessity at all times present in the blood; and the experiments of Frau Lüders seem to establish this. That lady took a small glass tube with the ends hermetically closed, which had been exposed for half an hour to a temperature of 290° C., and thrust it into the heart of a recently-killed guinea-pig and then broke off the ends. After the blood had been sucked into the tube from the other end, which was melted off to remove any fluid that might adhere from the lips, the ends of the tube were sealed, and it was kept at a temperature of from 13° to 15° C. After two days, fungous granules, chains, and rods were abundant. If then the spores of the vibrionidæ be always present in the blood, they must of very necessity develop themselves whenever that fluid is strongly disposed to putrefactive changes, as it is in malignant pustule." (See *American Journal of the Medical Sciences*, October, 1868, p. 349.)

That some of the minute particles constantly found in normal human blood and partly constituting the globulins of Donné, the molecular substance of Griffith and Henfry, the microzymes of Dr. Burdon Sanderson and sundry French authors, and the germinal matter of Beale,—at least in his earlier writings,—present the aspect of fungous spores, and develop into Bacteria-like bodies, is shown by the following experiment, which I have repeated a sufficient number of times to convince myself that I have not been misled by any false interpretations of the appearances presented.

A drop of blood from the finger, drawn with careful precautions against adulteration, was covered with a large thin glass in such a manner as to include a few bubbles of air, and the whole hermetically sealed by a layer of gold-size applied at the margin of the covering glass. A suitable field of view being selected, containing between the *rouleaux* of red corpuscles several large open spaces, in which could be seen with a $\frac{1}{25}$-inch objective sundry of the tiny particles above referred to, each in active movement,—perhaps molecular in its character,—the slide was firmly secured in position, and careful observations and drawings were made at short intervals, except through the night, for three days, at the end of which period the minute granules first seen had developed to three times their original size, becoming about $\frac{1}{10000}$ of an inch long, assuming an elongated dumb-bell shape, and increasing in number so that the place of a primary particle would often be occupied by six, eight, or ten Bacteria-like bodies, sometimes irregularly grouped together, but quite frequently assuming the branching arrangement so characteristic of the jointed mycelia of the lower vegetable organisms.

A series of my own experiments performed to demonstrate the presence, mode of entrance, and pathological effects of Bacteria in human blood, were detailed in the *American Journal of the Medical Sciences* for July, 1868, from which I extract the following as the most important:

"Experiment 4.—At 7.45 P.M., May 17, 1868, I drank four fluidounces of water similar to that employed in the preceding investigations, and containing multitudes of bacteria (estimated as numbering 27,000,000,000). At a quarter-past eight I examined a drop of blood drawn with a cataract-needle from the tip of my finger, and confined between a slide and cover cleaned with strong hydrochloric acid as above described. Under the field of the one-twenty-fifth-inch glass the interspaces between the rows of blood-corpuscles were found to contain multitudes of apparently spherical molecules, in rapid and erratic motion,—but so very minute as to readily escape notice even with this high power, except under the closest scrutiny; in the course of half an hour not less than one hundred were observed. At 9 P.M. another drop of blood, examined with the same precautions, exhibited, in addition to these minute particles, other bodies, less active in their movements, of much greater magnitude, and which under an amplification of eleven hundred diameters appeared precisely similar to the bacteria I had been studying a few hours before in the identical decomposing beef-juice imbibed.* Five of them were thus enlarged sufficiently to exhibit an unmistakable organized structure totally different from their associated aggregations of Beale's germinal matter. Three of these bacteria were each about $\frac{1}{12000}$ of an inch in length and $\frac{1}{25000}$ of an inch in width, very distinctly constricted in the middle; a fourth was obviously composed of four, and a fifth of six joints arranged in a straight line, whose motion was of that peculiar waving character so universal among the Oscillatoriaceæ. The last two were most clearly visible when they happened to lie vertically to the surface of the glass, and would probably escape observation under the one-eighth-inch except in that position, or be therefore mistaken for simple globular bodies, although in several cases I detected in the second and third experiments (with a lower power) a shadowy elongation of one diameter on the revolving molecules thus observed."

These results which I obtained were not confirmed during a repetition of my experiments made partly under the supervision of Col. J. J. Woodward, of the Army Medical Museum at Washington, but which were not, as has been stated by him, uniformly without any effect; and although such evidence must of course be allowed to have for negative testimony unusual weight, it should, I think, be viewed in conjunction with the observations of Dr. Neftel, of New York City, and M. E. Semmer, of Dorpat, whose researches go far to confirm my conclusions.

Dr. Neftel remarks (see *Medical Record*, July 15, 1868, p. 226), "Finally, I may mention the experiments which I myself made last year in Prof. Virchow's Pathological Institute and Dr. Kühne's Chemical Laboratory, and which I still continue. My object was to study the

*Careful and repeated observations had of course been made to establish the fact that similar particles were not visible in my blood immediately before drinking the bacteria.

influence and mode of action of cryptogams in the animal body. For this purpose I produced a fistula of the small intestines in dogs, and through it introduced the fungi. I also injected cryptogams into the respiratory organs of dogs and rabbits by means of tracheotomy; again I injected them hypodermically; into the veins; into the abdominal cavity; and at last I introduced them into the lymphatic sacs of frogs and observed by Cohnheim's method;" and, after giving a detailed account of particular investigations, he observes, "My experiments so far lead me to the conclusion that the lower vegetable organisms can continue to live and multiply in the tissues of living animals, and that they can enter into the general circulation either through the intestinal canal or respiratory organs or by means of hypodermic injections. What is their ultimate fate in the animal organism, and what their importance in producing disease, further investigations will have to show."

In further corroboration of my researches I may quote the experiments of M. E. Semmer, Prosector to the Veterinary Institute of Dorpat, described in his paper on the "Results of Injection of Fungous Spores and Fungous Cells into the Blood of Animals." This gentleman states that whilst in the blood of creatures affected with glanders, splenic inflammation, and septicæmia, micrococcus cells, mycothrix- and leptothrix-chains and threads are common, the circulating fluid of healthy beasts contains generally a few similar cells, and analogous rods and chains are to be met with in the liver and intestine. He also details three series of experiments made to test the question whether these contagious diseases were caused by the fungi found in the blood, and fully narrates the post-mortem examination of a foal into whose jugular vein was injected about two ounces of distilled water containing countless fungus-spores and micrococcus-cells, cultivated from splenic disease (*milzbrand*) blood upon boiled material, the poisonous dose causing the death of the animal on the eleventh day, preceded by loss of appetite, tottering gait, and marked febrile action. (See *Virchow's Archiv*, fünfzigsten Band, erstes Heft, S. 159, Berlin, 16. April, 1870.)

Influenced, therefore, by the positive statements of Drs. Lionel S. Beale and H. C. Wood, Jr., and the direct observations of M. Davaine, Dr. Neftel, and M. E. Semmer, as well as by the results of my own personal investigations, I think we must admit that Bacteria not only live but flourish in the blood of animals and of man with more or less frequency during the course of various maladies; yet whether by so existing in the circulating fluid these vegetable organisms constitute causes of disease, or whether they are simply products, or, again, mere accidental accompaniments of morbid action, it appears to me we have not hitherto accumulated a sufficient number of *facts* to enable us to decide.

Hence I think the profession is as yet unprepared to accept the doctrine of Dr. A. E. Sansom in his late work, "The Antiseptic System," London, 1871, p. x., where he says, "From a review of all the facts and observations I have been led to enunciate the theory that the poisons of spreading diseases are extremely minute living organisms, having the characteristic endowments of vegetable growths analogous to the minute particles of vegetable protoplasms whose function it is to disintegrate and convert complex organic products, owing their specific properties in special diseases not to any botanical peculiarities, but to the characters implanted in them by the soil in which they first sprang from innocuous parents, and from which they are transmitted, —this soil, except in the case of their earliest origin, being the fluids of the animal body."

In order, however, that such researches as those above referred to may be made, even in their present incomplete state, to aid us in improving the science of medicine, permit me to suggest that each Bacterium existing in the blood (whether as a poisonous cause, a product, or an accident of disease, I refrain from discussing at present) must during every moment of its life appropriate some minute portion of pabulum, which would otherwise have contributed to nourish the tissues of the animal in which it resides; and that therefore the sum total of the Bacterian influences (unless they feed solely upon effete matters, unlike their analogues of the dermatophytic affections) *must* be effective towards diminishing the vital power of the organism on whose life-blood they prey.

This view is confirmed by the experiments of Dr. Burdon Sanderson in his late interesting memoir "On the Origin and Distribution of Microzymes [Bacteria] in Water, and the Circumstances which determine their Existence in the Tissues and Liquids of the Living Body," in which he says, "As regards their [the Microzymes'] action on the liquids in which they live, the most important facts are (1) that their growth is attended with absorption of oxygen and discharge of carbonic acid; (2) that they are remarkably independent of the chemical constitution of the medium, provided that they are supplied with oxygen; and (3) that they take nitrogen from almost any source which contains it, and use it for building up their own protoplasm. It is this last power which specially indicates what may be called their place in nature, as the universal *destroyers* of nitrogenous substances, acting as the pioneers, if not the producers, of putrefaction. They exercise this function, not by virtue of any special relation of their own nutritive processes to putrefaction as such, but simply by their extraordinary power of seizing on the elements which they require for the construction of their own bodies." (See *Quarterly Journal of Microscopical Science*, October, 1871, p. 326.)

Upon this doctrine it is not difficult to found a theory for explaining the probable mode of operation of quinine and arsenic,—so long a problem in therapeutics,—when acting as tonics upon the human system in many cases of disease: namely, that in part, at least, they serve their important purpose by rendering the blood less fit for the development of these lower organisms, and in this way *economizing* the supply of nutritive material in the circulating fluid. Many well-known peculiarities in the action of these two principal tonic medicines tend to confirm such a belief,—as, for example, the facts: *First*, that quinine and arsenic, two substances which, although unlike in almost every other respect, resemble each other, as shown by the experiments of Dr. Binz of Bonn and Dr. Dougall of Glasgow, in being powerfully inimical to vegetable life, are in many cases our most reliable tonics. *Second*, that, as a general rule, three or four days must elapse before a decided invigorating effect is produced upon the system by these remedies,—a period which, we may conclude, is requisite for sufficiently impregnating the blood (without disturbing the digestive organs) to render it an unfavorable medium for the growth of Bacteria. *Third*, that after a continuance of some weeks these roborants generally lose their invigorating power upon any particular patient, but seem to have regained it if recommenced after their administration has been for a short time interrupted,—*i.e.* subsequent to the development of a new crop of Bacteria, which they again destroy. And *Fourth*, that arsenious acid has so remarkable an effect upon the arsenic-eaters of Styria, producing such fat, vigorous, and pure-complexioned individuals when steadily continued, and giving rise to such intense suffering if omitted for a short time; results which can hardly be owing to the arsenical preparation supplying any necessary constituent of the human body, and which seem much more probably to be due to some action in preventing a waste of nutriment, and consequently of vital power.

ON THE FIRST INSENSIBILITY FROM ETHER.

BY JOHN H. PACKARD, M.D.,
One of the Surgeons to the Episcopal Hospital, Philadelphia.

WHEN the vapor of sulphuric ether is inhaled, there is, as is well known, an early stage of complete muscular relaxation, in most cases soon succeeded by an excitement, which in turn gives way to the complete unconsciousness which is so desirable for protracted surgical procedures. It is not, however, so generally known that the muscular relaxation just mentioned is attended with entire anæsthesia. Advantage may be taken of this fact to perform many operations which, although intensely painful, occupy but a moment of time,—such, for example, as the opening of whitlows or other abscesses. In this way much time is saved to the surgeon, while the patient is spared not only the suffering of the knife, but the vomiting, headache, and tedious return to consciousness which are so apt to follow the protracted administration of ether.

Again, when it is decided to dispense with anæsthesia, it often happens that the incisions made are not free enough,—either because the patient resists, or the surgeon shrinks from giving pain; or it may be that the former cannot at first summon up his fortitude, and the operation is delayed until serious mischief has occurred, which might have been avoided by its earlier performance.

In large cities it is, of course, often easy to resort to the use of nitrous oxide, administered by those who make it a business; but in office practice, and in the country, the same end is gained by giving a small dose of ether. It is not even necessary to have an assistant, except in the case of children, or of very timid persons, who have not the force of will to follow out the directions given them. Generally the whole affair may be managed easily, as follows:

Let the patient lie on a sofa or reclining-chair, and take in his own hand a folded handkerchief or towel, with about f℥ss of ether poured over it. He should be instructed to breathe out strongly, and then to apply the inhaler at once, firmly, to his face, and to hold it there. He may be told also to raise up his other hand, and his attention repeatedly directed to keeping it up. As soon as the hands fall, the surgeon, having everything previously in perfect readiness, promptly accomplishes his object, and the patient is at once allowed to "come to."

Sometimes it is better for the surgeon himself, or an assistant if one is to be had, to manage the towel or other inhaler, the patient being told to concentrate his attention upon holding up one or both hands.

To those who are already acquainted with this "dodge" and with its value in the opening of abscesses, the reduction of dislocations, the introduction of instruments into the bladder, etc. etc., no apology can be necessary for this communication. I trust that some who have not hitherto known of the plan may be induced to try it, and may find it as useful as it has been to me.

PHYMOSIS WITH ADHESION OF THE PREPUCE TO THE GLANS PENIS FOR NEARLY ITS WHOLE EXTENT.

BY A. W. WIGGIN, M.D.,
Assistant-Surgeon U.S. Army.

THE following case has recently come under my observation, and seems to be of sufficient rarity to be put on record:

J. R., a native of Prussia, aged 38, consulted me in September last for gonorrhœa. I found the prepuce quite long, indurated, and with an orifice not over one-sixth of an inch in diameter. Suspecting balanitis, as the discharge was slight, I tried to introduce injections underneath the foreskin, but found that they apparently went back no further than the meatus. On questioning him, he stated that he had been able to retract the foreskin prior to the age of 12 or 14 years, but not since then. At that time he "took cold" in his penis, the parts swelling and suppurating. He has had repeated attacks of this difficulty—evidently balanitis—since then; but, though suffering a good deal during the attacks, and latterly experiencing constant trouble in urinating from the contraction and induration of the prepuce, he has neglected heretofore to bring his case to the attention of a physician.

He further stated that he had never before had any venereal disease.

On introducing a probe, I found I could carry it in any direction but little beyond the meatus.

After the cure of the gonorrhœa I removed the redundant prepuce as far back as the meatus urinarius, slitting up the mucous membrane as in the ordinary operation for circumcision. The prepuce was firmly adherent to the glans, the exposed portion of the glans measuring not over half an inch in diameter.

Though instances of similar adhesions are not rare, I have never seen a report of one, not congenital, so extensive as this.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY OF PENNSYLVANIA.

CLINIC OF PROFESSOR AGNEW.

Reported by Dr. ELLIOTT RICHARDSON.

TUBERCULOUS DISEASE OF TESTICLE.

THIS patient was brought before the class at the clinic held September 27, 1871, and gave the following history.

Swelling of the testicle was first observed by him some time during January, 1871. This swelling increased slowly, and until last July was unattended by pain. At that time, however, pain supervened, and had continued ever since, becoming so severe as to require the constant use of a large amount of anodyne to procure the necessary rest.

The tumor had also increased more rapidly since the advent of pain. The patient was suffering at this time from severe aching at the lower part of the back and abdomen.

The tumor at this date was quite large and regular in outline; it was heavy and elastic, and sensitive to the touch. There was no involvement of the lymphatic glands of the groin, nor was there any increased sensibility of the cord. The pain, the rapidity of growth, the weight, and the elastic feel of the tumor, Prof. Agnew said, were symptoms indicating carcinoma; but the immunity of the lymphatic glands, and the absence of evidence of disease of the cord and of any hereditary history of cancerous disease, were symptoms pointing in a different direction. The cachectic appearance of the patient, who was pale and emaciated, was probably due to prolonged suffering. But whatever might be the nature of the diseased growth, its removal was clearly indicated.

The prognosis, however, would vary much with the character of the disease. If carcinomatous, the lecturer said, the growth would probably return after removal; if tubercular, though liable to recur, it might not do so; but if cystic, removal would probably produce a permanent cure. An exploring-needle was introduced, and a drop or two of bloody serum escaped through the groove. The patient was then etherized, and Prof. Agnew proceeded to operate. A long longitudinal incision was made over the anterior surface of the tumor through the integuments. On cutting into the tunica vaginalis testis a little serum was found in its cavity, and also a few adhesions between its surfaces. On the surface of the tumor, beneath the inner layer of the tunica vaginalis, a small clot of blood —the remains of a previous slight hemorrhage—was seen. The veins of the testicle were now seen enlarged, and ramifying beautifully over the surface of the tumor.

The operator, after carefully dissecting the cord up, put a pin under it at this point, and ligated the cord by passing a

loop of silk ligature over one end, bringing it over the cord and tying it firmly under the pin on the opposite side. He said that this was preferable to simple ligation, on account of the opportunity it afforded to the operator to remove the ligature by withdrawing the pin about the fifth day, without waiting until the cord had sloughed through, and thus prolonging the cure. The testicle was then dissected out, and five small bleeding vessels ligated. The wound was closed by silver sutures and adhesive strips, and dressed with simple cerate, to be replaced the following day by laudanum largely diluted. The lecturer said that great care should be observed to tie every bleeding vessel in wounds in tissues of this nature, on account of their loose character, rendering the occurrence of hemorrhage from very small vessels very liable to follow, and of the difficulty in controlling this hemorrhage by compression.

The tumor after removal measured 3 inches by 4 inches in diameter, and was apparently tuberculous in its nature.

October 4, 1871.—A microscopic examination of the tumor removed from this patient has confirmed the diagnosis of tubercular disease made at the time. Laudanum and water have been used as dressing throughout the case. The wound is now granulating nicely, with no borrowing and little discharge.

October 10, 1871.—The wound has healed very rapidly, and with little suppuration. The patient still suffers much from pain in the back; that in the lower part of the abdomen has disappeared. The thickening about the abdominal ring has also disappeared. A small patch of granulations only remains, the rest of the wound having cicatrized, and he is to-day discharged from the ward.

PARALYSIS FOLLOWING LUXATION OF THE HUMERUS.

At Prof. Agnew's clinic, October 4, 1871, a man 50 years of age was exhibited, suffering from partial paralysis of the arm. This paralysis was the result of pressure of the head of the humerus upon the nervous trunks in the axilla, consequent upon a luxation of that bone, which was reduced at the University in the month of June last. As a result of this paralysis the arm had become somewhat atrophied.

He had had the galvanic current passed through the arm twice a week for some time, and a decided improvement was noticeable. The remedy was directed to be continued, and it was believed that under its use the arm would be perfectly restored.

VARICOCELE.

This patient was a young man 20 years of age, who had varicocele of the left side largely developed. Prof. Agnew, in alluding to the differential diagnosis of tumors occurring within the scrotum, said that varicocele resembled hernia in being augmented in size by coughing, in being larger while the patient is erect, and in disappearing when he assumes a recumbent posture; but if, after the tumor has disappeared, pressure is made upon the abdominal ring, instead of a return of the tumor being prevented, as would be the case in hernia, it is found in varicocele to recur, and even to become larger and more tense than when no obstruction is offered to the return of blood from the scrotal contents. The physical properties, also, of varicocele are usually different from those of other tumors of the scrotum. It is more irregular than any other, and gives to the finger very much the sensation of a bundle of earth-worms.

Varicocele nearly always occurs on the left side, on account of the return of blood to the cava through the spermatic vein being less free upon this side, from absence of valves. By its weight dragging upon the cord it often produces severe pain, extending along the cord to the back, and down upon the leg of the affected side. This can usually be remedied by supporting the scrotum in a suspensory bandage.

Prof. Agnew said he did not consider any operation called for in cases of this character, unless other measures failed to relieve the pain, or the patient's mind was so much disturbed by anxiety (often so great in affections of this part of the body) as to render obliteration of the enlarged veins a necessary measure. In this case the operation preferred is the subcutaneous ligation of the veins.

The lecturer said that although in the patient before us the varicocele was large, yet, as he suffered little inconvenience from it, he would advise bathing the scrotum twice a day with cold water, and the constant use of a suspensory bandage. These measures are only palliative, and a cure is not to be looked for from them.

WILLS OPHTHALMIC HOSPITAL.

SERVICE OF GEORGE C. HARLAN, M.D.

Reported by CHARLES K. MILLS, M.D.

HYPERMETROPIA.

C. C., æt. 15, could see well at a distance, but could not read or use his eyes for near work, even for a few moments, without pain and fatigue. He exhibited the typical hypermetropic physiognomy and structure of eye. His eyes were small, the sclerotic flat, and the whole face had a flattened appearance. By the ophthalmoscope, the fundus of each eye was discovered to be normal.

His acuteness of vision was normal. $V = \frac{20}{XX}$.

After paralysis of the accommodation by atropia, he was found to have a total hypermetropia of $\frac{1}{5}\frac{1}{5}$ in each eye. He was ordered convex glasses of six-inch focus, which enabled him to attend to near work and school studies without any difficulty.

An interesting feature of this case was the patient's remarkable power of accommodation. He could read No. XX Snellen at twenty feet, either with or without his +6 glasses.

THREE CASES OF LACHRYMAL OBSTRUCTION.

A. D., æt. 20, three months before applying for treatment, had a severe attack of conjunctivitis in the left eye, caused by exposure to cold and wet. The inflammation extended to the lachrymal apparatus, and resulted in lachrymal abscess, with a discharge of pus through the lower punctum. The eye was weak, watering, and subject to frequent attacks of slight conjunctivitis; but, as there was no considerable epiphora, it was decided not to operate.

She was ordered internally five grains of iodide of potassium three times daily; and an eye-wash of one grain of sulphate of zinc to an ounce of distilled water. Tincture of iodine was applied three times a week over the lachrymal sac. In three weeks, under this treatment, all inflammatory symptoms had subsided, and the tears passed freely through the duct.

M. C., æt. 25, had been troubled with her right eye for three years; the left was unaffected. From the account of the patient, the lachrymal duct of the right side had evidently been more or less obstructed during this time. She had no serious difficulty, however, until two months before coming to the hospital, when the eye became very painful and intolerant of light.

When first seen, there was an abscess of the lachrymal sac, with a fistula at its upper portion, discharging pus and tears; and there was also considerable swelling of the same side of the face. The canaliculus was slit up, and Bowman's probes were afterwards introduced every other day, commencing with one of the lower numbers and gradually increasing the size. The fistula closed three days after the commencement of the treatment, and the case is progressing satisfactorily towards a cure.

W. H., æt. 14, one year back had suffered from lachrymal obstruction of the right eye, from which he recovered, without active treatment, in about a month. One week before he presented himself for treatment, his right eye again became much inflamed, and tears ran over his cheek. It was found that a large lachrymal abscess had formed. The abscess was evacuated by slitting up the lower canaliculus, and a poultice was applied. Two days afterwards the swelling and inflammation were much reduced, and dilatation by means of Bowman's probes was commenced, and continued every other day. Two weeks afterwards the case is still under treatment, but nearly well.

RETINITIS PIGMENTOSA.

F. S., a German, æt. 18, complained of dimness of vision. He said that he could go about pretty well in the daylight, but was helpless in the evening. His eyes had been getting gradually worse for five years. They were occasionally pain-

ful. His general health was good. No syphilitic history and no hereditary tendency to disease of the eye could be traced.

He had an acuteness of vision in each eye of $\frac{12}{XXX}$. He could read No. 3 Snellen at from 10″ to 16″. His field of vision was remarkably contracted; at a distance of two feet its greatest extent was two inches for the left eye, and four inches for the right. All beyond these limits was complete obscurity to the patient.

By the ophthalmoscope, the retina of each eye was found covered with dots and patches of pigment, except immediately in the region of the macula lutea.

An unfavorable prognosis having been given, the patient concluded to return to his friends in Germany.

CHRONIC CYSTITIS TREATED BY ESTABLISHING A VESICO-VAGINAL FISTULA.—The report of this case, which originally appeared in *The Clinic* for November 4, has been introduced, together with the correspondence to which it gave rise, in the January number of *The American Practitioner*. It is as follows:

"Mrs. —— has suffered from cystitis for three years, in which time she has gone the usual round of treatment, both constitutional and local, without experiencing the least benefit. Two weeks ago, the patient being under the influence of chloroform, and lying upon the left side, knees and chin being approximated, the perineum being drawn back with a Sims' speculum, a curved trocar was passed along the urethra and caused to penetrate the vesico-vaginal wall just beyond the vesical meatus, and through the opening thus made the blunt blade of a pair of scissors was passed into the bladder, and an incision nearly an inch in length, directly in the median line, was made. When the hemorrhage, which was not great, had ceased, a tube somewhat larger in diameter than a female catheter, half an inch in length, and provided at either extremity with a perforated "button," was inserted into the opening. The buttons of course were to secure it in position, one being within the bladder, the other in the vagina. The former was concave in the face looking towards the vesical cavity.

"The bladder is syringed out at least once daily with a large quantity of warm water through the tube, using an ordinary Davidson's syringe, but having adapted it to a curved tube eight inches in length, slightly bulbous at its extremity, which has five perforations; this tube readily entering the vesico-vaginal tube, and permitting the escape around it from the bladder of the injected water. Thus far the condition of the patient has been decidedly improved, and there is every reason to hope that in the course of six or eight months, by the rest given the bladder and the faithful use of warm-water injections, she will be cured, and then the fistula can be readily closed."

Dr. Keyt, of Cincinnati, wrote to *The Clinic* that he considers the operation above detailed an unjustifiable one, on account of the hemorrhage and urinary infiltration which are very apt to ensue, and that it is moreover unnecessary, since the urethra affords in his opinion every facility for carrying out the indications for treatment, and no good reason can be given why cystitis should not be as well treated through the urethra as through a fistulous passage.

Dr. Thos. A. Emmet, on the other hand, in a letter to *The American Practitioner*, fully sustains Dr. Parvin, saying that the loss of blood under these circumstances is exceedingly trifling, and that the danger of urinary infiltration is entirely theoretical, from the fact that it can only take place with an accumulation in the bladder, and the object of the operation is to avoid this.

THE TEETH AND MOUTH IN IDIOTS.—Dr. Langdon Down has recently read a paper (*British Medical Journal*, December 23) before the Odontological Society, in which he insists on the importance of an examination of the mouth and teeth of idiots as a means of determining whether idiocy is congenital or acquired; an abnormal formation of these parts being, in his opinion, an indication that the affection is congenital. The lips, especially the lower, are usually thick; they are often deficient in prehensile power; the mucous membrane is very liable to chronic inflammation, and to ulceration from very slight pressure; and the mucous and salivary glands are usually hypertrophied. The first dentition is almost invariably postponed; sometimes it is attended with no disturbance of the general health, sometimes with violent convulsive attacks. The milk-teeth are frequently dark, and speedily become carious; and their stunted growth is often rendered more stunted by incessant grinding, which is very common in idiotic infants. The evolution of the permanent teeth is often postponed, and the sequence is slightly irregular. They are often crowded, so that sometimes the sides are presented. They are often arranged in different planes; sometimes the canines, sometimes the incisors, are most prominent. The enamel is imperfect, giving a honeycombed appearance, and they speedily decay. Dr. Down has been able to discover among the feeble-minded very few examples of the syphilitic teeth described by Mr. Hutchinson, and he considers this state to be quite distinct from the honeycombed teeth which he describes. The tongue is often unusually large, being elongated and deficient in muscular power and co-ordination. The surface is often corrugated; and the papillæ are hypertrophied, producing roughness. The condition of the palate is of most significant value. From a very large number of measurements, Dr. Down finds that, with a very few exceptions, there is a marked narrowing of the distance between the bicuspids on the two sides, with a consequent inordinate vaulting of the palate,—the line of junction of the palate-bones occupying a higher plane. In the exceptional cases the palate was wide in excess. The posterior part of the hard palate is often deficient, so that the soft palate hangs down abnormally. Cleft palate, in Dr. Down's researches, did not occur in more than five cases in a thousand.

THE PHYSICAL THEORY OF VITAL PHENOMENA.—Dr. Pavy (*Lancet*, December 2, 1871) explains and illustrates the physical theory of life with clearness. Premising with the fact that in the living organism there are influences at play which have no existence in the dead matter around, he says that this does not conflict with the extension of the law of conservation of energy to living nature. The effects produced may have their origin in the physical forces, the living matter forming the medium through which they operate. A disarranged machine may be compared with living matter devitalized. In both the capacity of being set in operation by force has existed, and in both the capacity has been lost.

The force evolved in muscular action has its source in the material supplied to the body in the form of food. Now, all food comes primarily from the vegetable kingdom, and vegetable products are built up through the agency of the sun's rays. And it may be said that the energy which, contained in these rays, has been employed in producing the compound is fixed or rendered latent within it. The formation of vegetables is coincident with the disengagement of oxygen from oxidized principles, and the development of combustible compounds. To effect this disengagement the operation of force is required. Now, the force so employed has its source in the heat and light of the sun, and that which is used for the purpose may be said to become fixed or latent,—stored up ready to be again liberated when exposed to conditions of oxidation. Thus may these vegetable products, which become directly or indirectly the food of man, be compared to a bent cross-bow, containing as they do a store of latent force which may for an indefinite period remain such, or may be liberated soon after it has become fixed. Whenever liberated, it is no more nor less than the equivalent of the force which has been used in the formation of the product. Our coal-fields represent a vast magazine of force drawn ages ago from the sun's rays, and capable at any moment of being set free by the occurrence of oxidation.

ENCEPHALOID DISEASE OF THE KIDNEY OCCURRING IN A CHILD ONLY TWO AND A HALF YEARS OF AGE.—Dr. J. C. Wilson gives the history of a case of this kind in *The Medical and Surgical Reporter* for December 16. There was an almost total absence during the life of the patient of any indications of the constitutional nature of the disease, hæmaturia being the only symptom which could not be referred to mechanical pressure of the tumor, which it was estimated weighed twenty pounds. A fungoid tumor of about three ounces in weight was found attached to the lower lobe of the left lung by a distinctly-formed neck.

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THURSDAY, FEBRUARY 15, 1872.

EDITORIAL.

DIPLOMA-MANUFACTORIES.

WE learn from *The Doctor* that there are three different advertisers in the London daily newspapers who profess to be accredited agents of the American University of Philadelphia. Each of the agents offers to procure the degree of M.D., LL.D., or M.A. One party offers the Doctorate in Divinity, Physic, or Law, for twenty guineas; another wants only fifteen. The prospectus of the University says the Institution "has a special claim upon the progressive portion of the medical profession, being the most liberal Medical College of the age;" and adds that the hospitals of the city are open to its pupils. To the prospectus are appended these names:

Joseph Sites, Dean of the Medical Faculty of the College;

John Buchanan, M.D., Dean of the University.

The Doctor says, in conclusion, "Now, we want to know whether the American University of Philadelphia is a recognized Institution. Has it legal authority to grant degrees? If so, ought it not, according to the law of the State, to be deprived of this power?"

The institution above alluded to is unquestionably the Eclectic Medical College of Pennsylvania, which occupies a building at 514 Pine Street, and the scandalous proceedings of which in reference to the sale of diplomas has been fully exposed by two or three of the daily newspapers of our city, and also in the New York *Tribune*. It claims to have been organized in 1842, to have been incorporated by the Legislature in 1852, and to have been created a University in 1867. As the Legislature is always ready to grant a charter to any institution which may apply to it, and as it rarely troubles itself about the use which is to be made of a charter, we do not doubt that the Eclectic Medical College of Pennsylvania is really incorporated, and that it has authority to confer degrees. That these are advertised for sale there also cannot be the slightest doubt. In regard to the last of the three questions which our London contemporary asks, we reply that it is the duty of the State Legislature to withdraw a power which it has conferred and which has been used for bad purposes; and we are glad to hear that, through the representations of the secular press and the exertions of a few gentlemen, among whom are the members of the Medical Faculties of the University of Pennsylvania and of the Jefferson Medical College, the matter has been brought to the notice of our legislators in such a manner that they cannot avoid taking official cognizance of it.

A few weeks since, a committee was appointed by the Legislature to investigate the alleged sale of diplomas. This committee met on Saturday, February 3, in this city, and took the testimony of the following gentlemen: Charles J. Stillé, LL.D., Provost of the University of Pennsylvania; Dr. R. E. Rogers, Dean of the Medical Faculty of the University of Pennsylvania; Dr. B. Howard Rand, Dean of the Jefferson Medical College; Dr. S. W. Butler, editor of the *Medical and Surgical Reporter;* and Mr. George W. Fairman.

We quote a portion of the Provost's evidence, as reported in the *Evening Telegraph* for February 3:

"I have evidence to show, first, that there have been advertisements inserted in a number of English papers, offering to procure, for those who should apply, academic degrees of various kinds, from the American University of Philadelphia and University of Philadelphia. As Provost of the University of Pennsylvania, I took an interest in endeavoring to ferret out the truth of these charges. I have received a large number of letters from persons in England on this subject. [Dr. Stillé then read letters from Dublin, Tyrone, Ireland, London, Yorkshire, and Glasgow, all stating that the writers had been approached, both by notes and by word of mouth, and told that if they would pay certain sums they could receive from these agents degrees from any one of the universities of Philadelphia. They moreover stated that there were in England hundreds of persons claiming to be graduates of the Colleges of Philadelphia, and who secured their diplomas by the payment of money. The Provost presented a great accumulation of papers from far and near, containing statements about the sale of the diplomas, and communications indirectly proposing their sale, signed by Professors Sites and Buchanan, of the Pine Street College.—REP.]"

Dr. Rogers testified to the same effect, saying that he had positive evidence that in the South merchants are in the habit of obtaining these diplomas for a consideration so small that when they sell them, as they soon do, they make a considerable profit on them.

Dr. Rand said,—

"During last summer, I think in June, I had a visit from a gentleman who brought me a letter of introduction from Mr. George W. Fairman, in which he stated that he was a Professor of Toxicology and Chemistry in the Pine Street Medical College. This gentleman said that, notwithstanding the recent act of the Legislature making it a penal offence to sell diplomas, they were still being sold at that institution, and also at the institution known as the Philadelphia University. He proposed that if I would advance him $100 because of the risk he ran, or guarantee him $200, he would bring me a diploma from each institution, made out in the name of a deaf, or blind, or dumb man or child. I told him I had no authority to do so, and I would lay the matter before the Faculty of our College; I did so, and they declined to act in the matter. This gentleman's name is J. Dunbar Hylton. There are two members of our class that were offered these diplomas, and I have given their names to your sergeant-at-arms, in order that they may be brought to testify."

The existence of these bogus institutions for so long a time has been a disgrace not only to our city, but to the State; for, besides inundating the country with a host of M.D.s who have either bought their diplomas or have studied medicine very imperfectly and under great disadvantages, they have in some cases drawn into their net young men who have come to Philadelphia with the intention of matriculating at the University of Pennsylvania or at the Jefferson Medical College and have been misled by the announcements of these institutions, as is shown by Dr. Rogers' testimony before the committee, that several young gentlemen had come to him, representing that they had purchased in the South and Southwest what were called scholarships for from $35 to $75 each, under the idea that it was to the University of Pennsylvania that they were really paying their money. The assumption of the title, in the one instance, of the American University of Philadelphia, and, in the other, of the Philadelphia University of Medicine and Surgery, certainly justifies the suspicion that it was done in order that they might be mistaken for the University of Pennsylvania.

The announcement of the Eclectic Medical College, in addition to setting forth the great advantages which it offers to its students, says that these have access to the clinical lectures delivered at the Pennsylvania Hospital. This, we are glad to be able to say, is no longer true. The Managers of the Hospital have given the members of the medical and surgical staff the power to exclude the students of any medical institution that they may please, and, acting under their directions, the Steward of the Hospital has declined to issue tickets to students of the Eclectic Medical College. This action on the part of the staff has called forth a note from the Dean, who must be a gentleman of most refreshing coolness. The note is as follows:

"DEAR SIR:—You have intimated to our students that they cannot attend the Pennsylvania Hospital,—a State institution, which we aid in supporting. Before applying to the court for a mandamus, I merely desire to know if you persist in their exclusion. Please inform bearer.

"Very respectfully, JOSEPH SITES, *Dean.*"

The only reply made by the Steward to this threatening epistle was that Dr. Sites was correctly informed; and up to this time no legal measures have been taken, so far as we are aware, to force the hospital to open its gates to the doctor's protégés. The Pennsylvania Hospital is not a public institution, but is supported entirely by voluntary contributions; but, even taking the view of it that Dr. Sites does, we cannot imagine how the Eclectic Medical College can possibly aid in its support, or in the support of any of the public institutions of the city; and the note is simply a piece of bravado, and was so regarded by the gentleman to whom it was addressed.

It has been usual to grant certificates of attendance to all students who have taken the hospital ticket; but, as there is evidence that these certificates have been made to serve for diplomas, the staff has determined to issue them only to the students of the regular colleges.

THE MEDICAL DECLARATION AGAINST ALCOHOL.

THE recent English medical journals contain the following medical declaration respecting alcohol, signed by many of the leading physicians and surgeons of London and of the provinces. The publication of this paper, which is said to have emanated from Dr. Burrows, the President of the Royal College of Physicians, has, as might have been expected, renewed the discussion in regard to the use of this substance by physicians in the treatment of disease.

The declaration is as follows:

"As it is believed that the inconsiderate prescription of large quantities of alcoholic liquids by medical men for their patients has given rise, in many instances, to the formation of intemperate habits, the undersigned, while unable to abandon the use of alcohol in the treatment of certain cases of disease, are yet of opinion that no medical practitioner should prescribe it without a sense of grave responsibility. They believe that alcohol, in whatever form, should be prescribed with as much care as any powerful drug, and that the directions for its use should be so framed as not to be interpreted as a sanction for excess, or necessarily for the continuance of its use when the occasion is past. They are also of opinion that many people immensely exaggerate the value of alcohol as an article of diet; and since no class of men see so much of its ill effects, and possess such power to restrain its abuse, as members of their own profession, they hold that every medical practitioner is bound to exert his utmost influence to inculcate habits of great moderation in the use of alcoholic liquids. Being also firmly convinced that the great amount of drinking of alcoholic liquors among the working-classes of this country is one of the greatest evils of the day, destroying, more than anything else, the health, happiness, and welfare of those classes, and neutralizing, to a large extent, the great industrial prosperity which Providence has placed within the reach of this nation, the undersigned would gladly support any wise legislation which would tend to restrict within proper limits the use of alcoholic beverages and gradually introduce habits of temperance."

The comments of the medical press are by no means entirely favorable to it. The *British Medical Journal* and *Medical Press and Circular* praise it, but the *Lancet* and *Medical Times and Gazette* condemn it. Dr. Anstie, who withholds his name, gives his reasons for doing so in full in *The Practitioner*. In the first place, he says, it is both a false and a mischievous idea that any considerable percentage of the drinking-habits of any class of English society springs from the improper prescription of alcohol by medical men. Unquestionably, habits of this kind are occasionally formed in this way, but by no means so often as the first paragraph of the declaration would seem to imply, and as it will undoubtedly be interpreted to mean by the public, who will look upon it as a distinct admission that the medical profession has had a relatively considerable share in the spread of intemperance.

In regard to the second paragraph, he says that it will convey to the public an entirely false impression as to the state of competent scientific opinion. It will be

taken as a confirmation of the now obsolete doctrine of Lallemand, that alcohol is treated by the organism as a merely foreign stimulant, and is not decomposed therein.

We believe that Dr. Anstie is right in the stand which he has taken, and, while fully admitting that alcohol is often prescribed recklessly, think that only a very few cases of intemperance can with any fairness be traced back to its administration by a physician in the treatment of disease: we think, therefore, that the publication of this paper will do harm by confirming a popular impression, which is doubtless fostered in many cases by the drunkard, who wishes to palliate his excesses.

THE EPIDEMIC OF SMALLPOX.

THE weekly reports of the Board of Health show that the epidemic of smallpox in this city is beginning to diminish in severity. It is to be hoped that the lessons taught by it will not be lost upon our people, and especially upon the Board of Health. Although we have no official report on this point, there can be but little doubt that, while the recently vaccinated have not in all cases escaped the disease, the number of these who have been attacked is small in comparison with that of those who are either wholly unprotected or who have not been vaccinated since infancy.

The precautions taken by the Board of Health against the spread of the disease do not seem to us to have been so efficient as they might have been. In the first place, we believe there were no general directions given in the daily newspapers as to the means to be taken to disinfect the sick-room, and also the wearing-apparel and the bedding of the sufferer. The arrangements for transporting the sick to the municipal hospital seem to have been especially defective, for not only were they often detained for a long time in the neighborhood of Independence Hall,—one of the most frequented parts of the city,—but the ambulances went about from house to house, in this way no doubt carrying the contagion into healthy localities. It is said, moreover, that the municipal hospital was overcrowded, which might have easily been prevented by the erection of pavilion hospitals of wood, as was done during the late war. We know that for much of this the Board of Health is not responsible, that its means of doing good are very much hampered by the want of money, and that our city government is rather inert, and is not so liberal as it might be in voting appropriations of money to be expended in maintaining the public health; but we think that no one can read the names of the gentlemen who compose the Board of Health without feeling that several of them possess no particular qualification for the position. We can see no reason why smallpox should be more contagious and virulent in this city than in New York. In the latter city the repressive measures taken last year were very successful, and there is every reason to believe that they will be so again this year. New York, with its tenement-houses and its poverty and misery existing to a degree unknown in this city, has almost escaped the pestilence, while Philadelphia has suffered severely.

Although we admit that there is a difference of opinion in regard to the propriety of publishing the number of cases of smallpox reported, yet there can be no question that the withholding of these reports has very much tended to produce the exaggerated rumors which have been current in this and other cities as to the extent to which the disease has prevailed here, and which have been the cause of great pecuniary loss to our merchants.

OBITUARY.

PROFESSSOR PAUL DUBOIS.—This celebrated obstetric teacher and practitioner, who recently died in Paris, was born in 1795. For many years past he had lived in a state of mental obscurity, although it is said his physical condition appeared to indicate anything but ill health. He was the son of an illustrious father, Antoine Dubois, Professor and Surgeon-in-Chief of the Maternité Hospital in Paris, and to his instruction and influence is due the early prominence of the former, his father having obtained for him, when quite a young man, the position of Adjunct Surgeon to that institution. At the time of his appointment, four thousand women were annually admitted into its lying-in wards. Young Dubois was first appointed Assistant-Professor, but in 1834 he became, after a warm contest, Professor of Obstetrics. This position gave him a new and ample field for the display of his abilities; his lectures became very popular, and for many years his eloquence attracted large numbers of medical men and students to the hospital. He had the opportunities which so many busy practitioners neglect, to collect the results of his observations and practice in a valuable work on the special subject to which he had devoted his life; but he was no exception to the rule, and his vast experience remains comparatively unrecorded.

DR. ARTHUR MCWHINNEY, for many years engaged in the practice of medicine in Philadelphia, died suddenly of apoplexy, January 26, in the 54th year of his age. He graduated at the Jefferson Medical College in 1851.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY, JANUARY 11, 1872.

THE PRESIDENT, DR. J. H. HUTCHINSON, in the chair.

DR. JOHN ASHHURST, JR., exhibited several specimens, as follows:

1. A *sequestrum* consisting of almost the entire diaphysis of the tibia in a case of necrosis occurring in a child. The dead part was surrounded by new bone, with several cloacæ, through the largest of which the sequestrum was readily withdrawn by the aid of an elevator and Fergusson's lion-jawed forceps.

2. The *thumb and metacarpal bone* removed from a patient about sixty years old, who had for many months suffered from syphilitic panaris in its worst form: a toe had been removed some time previously for a similar affection, and a considerable portion of the cranium had been lost by exfoliation.

3. The *great toe and a portion of its metatarsal bone* removed from an old man on account of intractable ulceration of the plantar surface which had involved the bones and joints of the part, and which presented much the appearance of the "perforating ulcer of the foot," as described by French surgeons. The patient said that some years ago he had received a gunshot wound of the toe, but had entirely recovered from that injury, the present disease having originated in

exposure of the foot to intense cold in filling ice-houses. A year ago an attempt was made to preserve the toe by cutting away the indurated margins of the ulcer and removing the carious bone at its base, but the disease recurred, and amputation was eventually required.

4. A *fatty tumor* the size of an orange, removed from between the scapulæ of an old man: the disease had existed three years.

5. The *condyles of the femur, articulating surface of the tibia, and patella*, removed by excision of the knee-joint in a case of chronic disease of the articulation, occurring in a youth of eighteen. The disease had existed over a year, and the joint had been open about three months. There was great swelling and infiltration of the soft parts, with disorganization of the articular ligaments and consequent increased mobility: grating was readily elicited by rubbing the joint-surfaces together. Excision was done January 11, 1872, by means of a single transverse incision, as originally suggested by Park, and since practised by Texter, Kempe, and Fergusson, the bone-sections being made with a butcher's saw. The joint-surfaces were almost entirely deprived of cartilage, and were carious, the patella likewise being extensively diseased.

The wound was lightly dressed with oiled lint, and the limb placed upon a bracketed back splint, which it is intended not to change, if it can be avoided, for at least six weeks.*

Dr. J. M. BARTON presented a specimen of *mixed round- and spindle-celled sarcoma*, removed by Prof. S. D. GROSS from Mr. J., æt. 32, who was in good health until the latter part of 1868, when he discovered a small tumor in the calf of his right leg. This grew slowly, and was removed in July, 1869. It was a spongy mass, very vascular, and resembled an angeioma, though its real structure probably approached that of the present growth.

In August, 1871, another tumor was removed from the same situation by Prof. Gross. It was developed between the soleus and posterior tibial muscles, immediately beneath the cicatrix from the previous operation, but was different in appearance, being quite soft and vascular. It was probably a fibro-sarcoma.

To-day the third tumor was removed from the same situation: it is larger, more vascular, and much softer than the previous growths. It extended up into the popliteal space, and all the surrounding muscular structures were infiltrated by it.

The patient and his friends would not permit amputation.

The specimen was referred to the Committee on Morbid Growths, who reported:

"Your committee, having hardened portions of the tumor and prepared sections of it, are of the opinion that it is a sarcoma, presenting in some parts exclusively small spindle-shaped cells, in others small round cells with large nuclei."

Dr. COMEGYS PAUL exhibited an *angular fragment of bone removed from the œsophagus*, and read the following history:

"Mrs. H., æt. 57, is of very nervous temperament, and has been subject to attacks of hysteria for several years past.

"On the 19th of December last, while at dinner, she swallowed, with a spoonful of soup, a piece of bone, which lodged in the œsophagus and occasioned a great deal of distress. I was sent for in the early part of the evening of the same day. Upon examination I could distinctly feel, with an elastic bougie, the foreign body fixed at about the junction of the upper and middle third of the œsophagus. During that afternoon she had been making constant efforts to dislodge it, by coughing, by emetics, etc., and the part was exceedingly sensitive on this account.

"She seemed to be entirely overcome by her anxiety, and while I was there she had two hysteric convulsions of a severe character. Because of her excited condition I considered it prudent to put her under the influence of an anodyne before making any attempts at removal of the obstacle. Towards midnight I returned, and introduced a ramoneur or horse-hair bougie, and succeeded in raising the bone about an inch and a half, when it slipped from the grasp of the instrument, and two succeeding attempts were without success. An emetic was now given, with no better result, and, thinking that enough had been done that night, I again administered an opiate, and left her.

"The next morning the instrument was reintroduced, and this time I succeeded in removing the offending substance.

"It is a thin piece of the compact material forming the shaft of a long bone, and has the following measurements: length, ¾ inch; breadth, ⅔ inch; thickness, 2 lines; long diagonal, 1 inch. The corners are very sharp, and caused slight laceration of the œsophageal tissues, as evinced by the expectoration of blood for a few minutes after the operation. However, within one week she was suffering from no inconvenience or painful deglutition."

* Jan. 25.—The excision wound united by adhesion through almost its entire length, and union of the resected bone-surfaces is evidently progressing. The patient's general condition since the operation has been perfectly satisfactory.

BIOLOGICAL AND MICROSCOPICAL SECTION OF THE ACADEMY OF NATURAL SCIENCES.

MONDAY, JANUARY 8, 1872.

DIRECTOR W. S. W. RUSCHENBERGER, M.D., in the chair.

Present also—Prof. Jos. Carson, Prof. R. E. Rogers, and Messrs. Tyson, F. W. Lewis, Nancrede, I. Norris, Schaeffer, McQuillen, Holt, Buckingham, Corlies, West, Packard, Wood, and Richardson.

Visitors—Commodore J. P. Gillis (M.A.N.S.), Dr. Tomey, U.S.N., Dr. L. A. Duhring.

Dr. JOS. G. RICHARDSON read a communication on "Certain Human Parasitic Fungi and their Relations to Disease," illustrated by specimens of the Microsporon furfur mounted in a saturated solution of acetate of potash. In this paper, after a description of Tinea versicolor, the author maintained the view that other tissues besides the skin might be the seat of parasitic growths, as indeed had been shown was the case in regard to the blood, in which, according to the observations and experiments of Beale, H. C. Wood, Jr., Davaine, Neftel, Semmer, and the writer, Bacteria may flourish; and on this fact Dr. Richardson founded a theory of the tonic effect of quinine and arsenic,—to wit, that these remedies acted by preventing or retarding the growth of Bacteria in the circulating fluid. (See p. 180 of current number.)

Dr. TYSON remarked that minute particles of germinal matter in the vegetable and animal kingdoms are often so entirely identical in their morphological characters that they cannot be distinguished from each other; so that the spores described by these various investigators as seen in the blood may have been the earliest forms of animal, and not of vegetable, organisms. He was himself inclined to doubt that the sporules Dr. Richardson found in his blood after drinking water filled with Bacteria were the same as those occurring in the fluid imbibed, for the reason already stated, and because the gastric juice has, as is well known, a powerful destructive action upon all bodies consisting of or containing albumen.

Dr. RICHARDSON observed that the existence and growth of Sarcina ventriculi in the stomach showed that the gastric fluid was not necessarily destructive to vegetable life, and mentioned that the strongest argument that Bacteria such as he drank are non-albuminous, vegetable, and *not animal* in their nature, is found in the fact that they are unacted upon by a solution of caustic potash.

Dr. TYSON answered that the Sarcina developed during the occurrence of pathological conditions of the stomach which there was no reason to suppose existed in Dr. R.'s own case when he made the experiment referred to.

Dr. RICHARDSON replied that he believed it was stated by Dr. Beale that the flocculi containing Sarcina in vomited matter were always intensely acid, and, although he knew of no analysis of the fluid, it was fair to presume that at least part of this acidity was due to the gastric juice.

Prof. CARSON remarked that, if we accept this theory of the tonic action of quinine and arsenic, iron, gentian, and the whole catalogue of roborants must receive the same explanation of their effects. From his own experience, he had been led to believe that arsenic produced a desire for food by its irritant action upon the coats of the stomach; and also that

its tonic and anti-spasmodic power had been very much overrated, especially as its effect upon the Styrian peasants was after a time to produce a dropsical condition of the whole body. He would like to inquire whether a fungus would not grow in solutions of quinia and of arsenic.

Dr. RICHARDSON replied that such was the case with certain kinds of fungi, but that others, and especially the Bacteria or Microzymes in question, had been shown to be killed by even very dilute solutions of these two agents.

Prof. CARSON further remarked that quinine had a powerful influence upon the nervous system, and that its effect upon the organism in general was certainly made up of several different elements. Recurring to Dr. R.'s experiment with Bacteria, it was difficult, he thought, to account for the entrance of these bodies into the capillaries, whose walls only after much dilatation would give exit to the Leucocytes of the blood, as is seen in Cohnheim's experiment.

Dr. H. C. WOOD, JR., observed that during the past few years he had enjoyed opportunities of observing intermittent fever very extensively in the Philadelphia and Episcopal Hospitals, and had experimented upon a great number of cases with the sulphites and with carbolic acid. The conclusions at which he had arrived were, that the latter of these so-called remedies had no more effect in checking the disease than so much cold water, and that the former were almost but not quite equally inert. He had, however, found arsenic to relieve very obstinate cases of ague with great certainty.

Dr. TYSON said that in some experiments of his own, conducted with this special object in view, he had found that the spores and threads of a fungus developed in a saturated solution of sulphite of soda were uninjured when macerated in the fluid after the liberation of sulphurous acid from the sulphite by the addition of an acid.

Prof. ROGERS remarked that this subject had an important bearing from a chemical point of view, on account of its close association with some of the phenomena of fermentation. It has long been known that the addition of sulphites or hyposulphites will obviate the loss of sugar by fermentation during the clarifying process, and also that the same compounds of sulphurous acid will prevent the conversion of barrelled cider into vinegar. The explanation is that the sulphites are converted into sulphates by the absorption of free oxygen, which absorption prevents the development of the vegetable organisms on whose growth fermentation depends, since oxygen is absolutely necessary to the germination of such fungous spores.

Prof. CARSON observed that some forty years since he was acquainted with a bottler who was accustomed to preserve cider by covering it with a layer of sweet oil, this doubtless having the same effect of cutting off a supply of oxygen.

Dr. RICHARDSON suggested, in regard to the tonic effect of iron in its various preparations, that it might be accounted for on the supposition that it acted by supplying a necessary ingredient to the red blood-corpuscles, and so increasing their number, when deficient, as in anæmia.

Prof. CARSON approved of this explanation, and added that there was also another way in which ferruginous medicines acted powerfully in improving the tone of the system, and that was as restoratives of the blood-making function, and nutritive alterants. He had known many cases of ague where quinine failed to accomplish a cure, until after the patient had been subjected to the depurative action of tincture of chloride of iron with sweet spirit of nitre, through the kidneys.

REVIEWS AND BOOK NOTICES.

ON THE USE OF THE OPHTHALMOSCOPE IN THE DISEASES OF THE NERVOUS SYSTEM AND OF THE KIDNEYS; ALSO IN CERTAIN OTHER GENERAL DISORDERS. By THOMAS CLIFFORD ALLBUTT, M.A., M.D., etc. 8vo, pp. 405. London and New York, Macmillan & Co.

Soon after the introduction of the ophthalmoscope, hopes were expressed by various observers that it would give valuable assistance in the study of diseases of the nervous system; but to Von Gräfe is due the credit of demonstrating its usefulness in a classical paper published in 1860, in which he describes the use of the mirror in the diagnosis of encephalic tumor.

So successfully has this field of research been cultivated, that we are now afforded a valuable monograph of four hundred pages, containing the results of many skilful laborers, to which have been added those of the author, who discusses these questions not as an ophthalmic surgeon, but as a physician more particularly interested in the study of diseases of the nervous system.

After a practical description of the fundus of the eye in its normal state, and of the means that may most easily be employed in its examination, he gives a clear account of the relations between the retina, optic nerve, and brain, and of the variations from health that may be observed by the mirror in various intracranial disorders and diseases of the spine.

Then follows an account of the changes in the retina in albuminuria, leukæmia, and syphilis; and of the amaurosis dependent upon diabetes, upon the abuse of tobacco or alcohol, and upon lead-poisoning.

He then gives an interesting account of the state of the intra-ocular circulation in sleep, and in the stupor that follows an epileptic attack or the inhalation of chloroform; and describes the influence upon it of various agents, such as bromide of potassium, ergot, chloral, etc.

After discussing the symptoms and results of embolism of the central artery of the retina, he gives the clinical reports of one hundred and twenty-three cases of nervous diseases, and concludes with a series of valuable tables, in which the condition of the eye-ground is recorded in cases of insanity with epilepsy, mania, dementia, melancholia, and general paralysis.

After a careful perusal of his facts, the reader may without cavil accept his statement in his introduction, that the ophthalmoscope is already of so much use in diagnosis that it should be in the hands of every physician who wishes to speak with authority upon the subject of diseases of the nervous system; and a brief allusion to the anatomical relations of the optic papilla and nerve furnishes the reasons for his faith in the mirror.

Upon looking into the eye, the optic papilla is the most prominent object, and is recognized as a disk of pink hue, from which arise the arteries and veins of the retina. The central artery, it will be remembered, is a branch of the ophthalmic, and it penetrates the optic nerve a short distance behind the globe, and, passing with the nerve-fibres onward, makes its exit from the centre of the disk. The central vein upon leaving the disk accompanies the artery in the optic nerve, leaves it a short distance behind the sclerotic, and joins the ophthalmic vein, which passes through the sphenoidal fissure and terminates in the cavernous sinus.

It was formerly supposed that the rosy hue of the disk was caused by minute vessels which arose from the central arteries and veins; but it has been shown by Galezowski that the retina and the disk have independent sources of blood-supply, and that the circulation in the disk forms a part of the vascularity of the brain.

This important point has been established by other observers, and has been confirmed by dissections after injections by Dr. Allbutt. Vessels arising from arteries at the base of the brain can be traced into the optic tracts, where they form an uninterrupted network, which extends from the tracts to the disks, where it produces their characteristic rosy hue.

Whilst the disk, then, may not be regarded as a dial-plate which furnishes exact information as to the encephalic circulation, yet most valuable evidence of changes and variations in pressure within the cranium may be obtained by an examination of it during sleep, or whilst the system is under the influence of certain remedies or general disorders.

An accomplished observer, Dr. Hughlings Jackson, says, "It is scarcely necessary for me to say that my reason for examining the eye during sleep was to form some idea as to the condition of the brain itself in this physiological condition; the retina and the brain being supplied by branches of the same trunk, the carotid, and these by the same vaso-motor nerves. We may therefore consider the retina as part of the brain extruded through an opening in the skull."

From these anatomical facts arise two marked pathological conditions of the optic disk. First, the swollen œdematous

state, which our author styles "ischæmia, or choked disk," well shown in the colored lithograph which forms the frontispiece of his book, characterized by dilated veins, an enlargement of the disk, and its projection forward into the vitreous humor. This condition, which may exist without any disturbance of vision, is considered a result of pressure upon the sinuses of the brain, and through them upon the retinal veins, aided by what has been happily called by Von Gräfe the "multiplying action" of the sclerotic ring. This pressure may be due to any aneurism, cyst, exostosis, collection under the dura mater, or morbid growth, whether malignant or benign, or, in short, to anything which may increase the intracranial tension. Second, the condition known as optic neuritis, marked by slight œdema of the disk, decided hyperæmia in its early stage, and positive atrophy in its latter, accompanied by serious if not entire loss of vision. It is believed to indicate encephalic changes of an inflammatory character, such as meningitis or encephalitis, and is distinguished by tissue-changes throughout the entire course of the optic nerve; whereas the disturbances in ischæmia are limited to the disk alone.

Whilst this marked distinction based on the difference of vascular supply may be accepted, yet atrophy may follow ischæmia, and it may in the late stage of the lesion be difficult to decide whether the primary disturbance was due to a mechanical pressure, or to proliferation in the nerve-tract.

Having shown that Dr. Allbutt has sure foundations for his deductions, it remains only to say that he has displayed marked ability in his own observations, and great candor in stating the opinions of all who have contributed to this subject.

One great cause of disappointment in the use of the ophthalmoscope has been its use only by the "indirect" method, by which an "inverted image" of the fundus is obtained, on so small a scale as to render slight changes entirely unrecognizable. A few efforts by the "direct method" will convince any observer of its great advantages, since it is much more simple; and, the scale of enlargement being four or five times greater than that of the "inverted," the least deviations from a normal state are readily appreciated.

THE SCIENCE AND PRACTICE OF SURGERY. Illustrated by Four Hundred and Seventy Wood-Engravings. By FREDERICK JAMES GANT, F.R.C.S., Surgeon to the Royal Free Hospital, formerly Surgeon to Her Majesty's Military Hospitals, Crimea and Scutari. 8vo, pp. xlv., 1265. Philadelphia, Lindsay & Blakiston, 1871.

This is a book of stupendous size and high-soaring aims, and the reader of it may well feel as if he was starting on a long and doubtful journey.

In a somewhat elaborate preface and introduction a very large amount of work is mapped out, and a portentous number of divisions and subdivisions are given, while the student is treated to an array of knowledge and quasi-philosophic reasonings which in our younger days we should have regarded as appalling. But let him, undismayed, wade boldly through this shallow slough of despond, and he will at last come out upon hard ground, where he may have some idea of his surroundings.

The views of Mr. Gant upon inflammation, though occupying sixty pages, are very far indeed behind the times,—which we cease to wonder at when we see that he does not appear to have read anything on the subject bearing a later date than 1864, and but a solitary reference is so recent. To judge from this book, it would be inferred that Germany had done nothing to advance our knowledge of pathology since the publication of the English translation of Virchow; so that, as the first reason given for imposing so huge a volume upon the profession is that it is now many years since a new systematic work representing the science and practice of surgery has appeared in England, we feel that Mr. Gant has indeed furnished us with a new book, but has kept back much new material which has been fully established by the progress of science.

Some space is devoted to the consideration of tumors, Paget's earlier editions having been ransacked for materials, and short abstracts of his views are presented, while more than an entire page is devoted to a display of almost antiquarian learning in describing and tracing to their authors the names of the varieties of cancer which had their origin in the first half of this century.

The account given of the claims made for syphilization as a remedial measure is succinct and to the point, and the conclusions arrived at in England as to its merits by Messrs. Lane and Gascoyen are placed briefly but clearly before the reader; but we are tempted to laugh at page 196, where Mr. Gant recommends the inhalation of the vapor of calomel for the treatment of syphilitic angina, and tells us that of the two cases in which he has tried it, one died from pneumonia, but in the other no serious inconvenience was experienced; and the reader might be led to suppose that the Surgeon to the Royal Free Hospital lends the weight of his authority to a method of treatment upon scanty grounds and very limited observation. The chapter upon gunshot wounds is fair, while those upon aneurism and the ligation of arteries are compactly put together, the materials well arranged, and reference is made to most of what is known upon the subjects of which they treat. In the chapters upon fractures and dislocations, American authorities have been largely drawn upon, and the general subject is well treated, though the special directions are necessarily very short.

As we should expect from Mr. Gant's late contributions to surgical literature, the chapter upon excisions is quite full, seventy-six pages being devoted to the consideration of this important surgical procedure. Of twenty-eight excisions done by himself, twenty-five of which were of the hip, knee, or elbow, in only one did death occur, and in this solitary instance tetanus was the immediate cause of the fatal termination. Mr. Gant is fortunate in never having seen pyæmia follow an operation of resection; so that we hardly wonder when our author thinks the results are largely dependent upon the operator, for we know of no one else who has reported such uniform success. Full analyses of his own cases, and of some large series collected by himself and others, are appended to the description of each operation, and are of real value, but want of space will not permit us to reproduce them here.

The chapter upon hernia is remarkable for some very excellent illustrations of Wood's method of operating for the radical cure of rupture, which show clearly the successive steps advised by that eminent surgeon in his ingenious attempt at alleviating this infirmity, to which so large a proportion of flesh is heir. Mr. Gant gives a good account of the operation of ovariotomy, and dwells upon the practical points which have been demonstrated by Mr. Wells' extended series of cases. There is also added to the volume an account of the method in which examinations are conducted at the Royal College of Surgeons, which we suppose will possess much interest for the students who have to pass those ordeals, and is suggestive to all those in this country whose duty it is to examine for degrees.

Our opinion of Mr. Gant's book, taken as a whole, can be expressed in very few words. In the statement of theories and principles it is diffuse and indistinct, but its practical directions are clearly stated, and show its author to be a man of quite extended experience. The style is at times stilted, and we have noted many inaccuracies, of which it is not worth while to attempt the detail in so short a notice as this must necessarily be.

The book is well printed, on good paper, and is profusely illustrated, but we are inclined to protest against the boundless expansiveness of which octavos seem capable, and of which the volume before us affords a pertinent example. For most readers, so thick a book is quite as unwieldy as any quarto; and we feel a regret that such very portly volumes should take the place of the handsome large-paged editions which were formerly in vogue.

STIMULANTS AND NARCOTICS: MEDICALLY, PHILOSOPHICALLY, AND MORALLY CONSIDERED. By GEO. M. BEARD, M.D. 12mo, pp. 155. New York, Putnam & Sons, 1871.

EATING AND DRINKING. A Popular Manual of Food and Diet in Health and Disease. By GEO. M. BEARD, M.D. 12mo, pp. 180. New York, Putnam & Sons, 1871.

These two works are intended to familiarize the people at large with the history and effects of alimentary substances; and it is to be regretted that the author has often sacrificed

scientific accuracy of statement in order to bring his remarks within the limits of popular comprehension. In the first volume his definition of fermentation is equally if not more applicable to putrefaction, as "a kind of decomposition that vegetable substances undergo when placed in contact with air and moisture." But in general the work has been remarkably well done, and the error of adopting a partisan view of eating and drinking studiously avoided. The peculiar dryness of our climate in relation to intemperance, the incompatibility between schools and grog-shops, and the inability of legal enactments to suppress drunkenness are each in turn discussed, and the conclusion arrived at is, that the "future of temperance must inevitably share in the future of civilization." In the second work alluded to, a brief description of food in various countries is followed by a dissertation upon dietetics, in which the absurdities of vegetarianism are rebuked, and a very remarkable treatise on dyspepsia ends this interesting production, which contains more solid information than any other work of its size upon the same subject. Now, we are not surprised to find that Americans as a race are sadly intemperate, when the enormous amount of mental work which they perform is considered; nor is dyspepsia an unnatural result of the weary brains and ill-used stomachs of a large class in our community. But that any education, except in so far as it teaches men how to use instead of abusing their constitutions, would suffice to remove the evils of intemperance, is a proposition which seems extremely erroneous. Perhaps by substituting moral and mental pleasures for mere physical gratification the desired result might be obtained; but the latter element shows itself quite as strongly in the savant as in the swineherd, and cannot be ignored.

There is an assertion contained in the latter part of "Stimulants and Narcotics" concerning the use of tea, which we are able to deny from personal experience. The author says, "In China and Russia tea is made very weak, not by long steeping, but by pouring boiling water on the leaves." On the contrary, this last method renders the drink much stronger, as any may find out for themselves, however it may be explained.

The impression given by the chapter on dyspepsia is that Dr. Beard has mistaken the stomach for the gizzard, since he ignores the gastric juice altogether, and throws the burden of the digestive process upon the gastric muscles ("Eating and Drinking," p. 172). But, with these few exceptions, the volumes are well written, and deserve a liberal patronage at the hands of the public.

A typographical error in Book 1st, p. v., makes Dr. John Harley the author of The Old Vegetable *Narcotics*.

A Contribution to the Treatment of Versions and Flexions of the Unimpregnated Uterus. By Eph. Cutter, A.M., M.D. Pamphlet, 8vo, pp. 44. Boston, James Campbell & Co., 1871.

Another effort towards a more successful treatment of uterine displacements. Dr. Cutter brings forward two pessaries, one of which he describes as "purely his own." Both act as bent levers, the anterior edge of the perineum being the fulcrum, the cervix the point to be held or moved, while to the short external arm force is applied by a band of india-rubber tubing, passing backwards between the nates and upwards to a waist-band. In their adjustment we are introduced to a new family of uterine instruments,—loop- and T-pessaries, vaginometer, vaginal sounds, perineal elastic bands, defecating attachment and joint—we become bewildered at the fertility of mechanical ingenuity. Amid the maze, some, doubtless simple, points still perplex us. In regard to the short arm, we read, p. 13, "The perineal hook should surround the perineum without touching it,"—seemingly a difficult task for the hook; and how, we ask, are we to discover "if air does not circulate between it and the perineum"?

Again, both elastic tube and hook are directly in the way of defecation. P. 13, "Patients should be instructed to loosen the belt about two inches before defecation, then turn the hook forwards and hold." Fancy the agony of one seized with imperative intestinal premonitions, striving in vain at the last moment to remember the lucid directions, "loosen the belt about two inches before defecation," etc.! Why about two inches before defecation, when another instrument might be so readily devised to measure it more accurately?

On p. 15 we are told that should subsequent discomfort arise there must be something wrong, either with patient or pessary; and we learn that iodoform suppositories are useful in allaying vaginal irritation before or after using this pessary, which doubtless possesses some subtle influence over that refractory drug which other pessaries do not.

How truly and graphically could a grateful patient describe herself, after being relieved, as right to a T!

On page 31 the author shows how *he* often persuades unwilling patients to be bled: he tells them, "Water is indispensable to human life. If people fall into the water, and life is destroyed, is this an argument against its use as a beverage?" This is unanswerable, and almost equal in clearness and simplicity to his "homely illustration" a few pages before: "Suppose you have a uterus in your coat-sleeve." Excuse us; we had rather not.

We get on page 41 a chance insight into the personal habits of the author. What a simple, honest taste is expressed in the words, "I say *lard*, because I like it better than anything else"! Better even than obstetric surgery, doctor?

We are advised that vaginal examinations be made upon a "dining-table." Why, we ask, on a dining-table? True, he explains somewhat later, "because they [the patients] do not sink in." Does anybody suppose they do? We should fancy, however, that after submitting to his mechanical measurements and appliances they might be desirous of doing so, if they could.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Wisconsin State Medical Society, 1871.

Eleventh Annual Report of the Alabama Insane Hospital, October, 1871.

Diagrams of the Nerves of the Human Body; exhibiting their Origin, Divisions, and Connections, with their Distributions to the Various Regions of the Cutaneous Surface, and to all the Muscles. By William Henry Flower, F.R.C.S., Assistant-Surgeon to, and Demonstrator of Anatomy at, the Middlesex Hospital. Edited, with Additions, by William W. Keen, M.D., Lecturer on Anatomy and Operative Surgery in the Philadelphia School of Anatomy, etc. Folio, pp. 12. Philadelphia, Turner Hamilton, 1872.

Electricity in its Relations to Practical Medicine. By Dr. Moritz Meyer, Royal Counsellor of Health, etc. Second Revised and Corrected American Edition. Translated from the Third German Edition, with Notes and Additions, by William A. Hammond, M.D., Professor of Diseases of the Mind and Nervous System, and of Clinical Medicine, in the Bellevue Hospital Medical College. 8vo, pp. xiv., 502. New York, D. Appleton & Co., 1872.

The Detection of Criminal Abortion, and a Study of Fœticidal Drugs. By Ely Van de Warker, M.D. Pamphlet. Boston, James Campbell, 1872.

First Special Report of the Chicago Relief and Aid Society. Pamphlet.

Electricity in the Treatment of Diseases of the Skin. By George M. Beard, M.D. Reprinted from the *American Journal of Syphilography and Dermatology*.

ABSTRACTS.

CAUSE OF DIABETES.

A MOST interesting and important addition to our knowledge of the cause of diabetes (*The British Medical Journal*, December 23, 1871) has been recently made by Professor Cyon, in a paper which he, along with M. Aladoff, has communicated to the Imperial Academy of Sciences at St. Petersburg, and which is published in the *Mélanges Biologiques*. Several years ago, Claude Bernard put forth the theory that in diabetes the functional activity of the liver is increased, and a larger amount of sugar formed in it in consequence of the vessels of the organ becoming dilated, and

the circulation in them more active. The increased activity of the circulation he attributed to some change in the vaso-motor system of the hepatic vessels, which allowed their walls to relax in a similar way to those of the ear of the rabbit after the sympathetic has been divided in the neck. He ascertained that the formation of sugar could be greatly increased, and diabetes produced, by galvanizing the pneumogastric nerves in the neck, or by irritating their roots by puncturing them at their origin in the fourth ventricle. At the same time that the production of the sugar was increased by the puncture, the vessels of the liver became much dilated. It might thus have been supposed that the nervous influence which originated in the medulla oblongata and caused diabetes, passed down to the liver through the vagi. This, however, was not the case; for when these nerves were cut and their ends galvanized, diabetes was only produced by irritation of the central end, but not by irritation of the peripheral extremity. Diabetes could also be induced by puncturing the fourth ventricle, just as readily after the vagi were cut as when they were intact. If the splanchnic nerves were cut before the fourth ventricle was punctured, no diabetes was produced; but if they were cut after the puncture had been made, their section did not remove the diabetes which was present.

From these and other experiments, Bernard concluded that the air inhaled during respiration irritated the ends of the vagus in the lung; that this irritation was conducted up to the medulla oblongata, and was thence reflected down the splanchnic nerves to the liver, and caused the formation of sugar. By what way the nervous influence passed from the medulla to the splanchnics, however, was not ascertained; and no very satisfactory explanation could be given of the fact that section of the splanchnics after puncture of the ventricle did not remove the diabetes. Some light was thrown upon this question by the observations of Eckhardt and Pavy, but it has been reserved for Cyon completely to solve it.

Pavy noticed that section of the superior cervical ganglion of the sympathetic might cause diabetes; and Eckhardt found that it followed section of the last cervical or any thoracic ganglion, just as certainly as puncture of the fourth ventricle. Section of the splanchnic nerves did not produce it.

Eckhardt tries to explain this difference between the effect of dividing the ganglia and the nerves by supposing that diabetes is due to irritation of the ganglia by the exposure of their cut surfaces to the air, and that, when the nerves are divided between the ganglia, paralysis and not irritation is produced. If this hypothesis were true, diabetes should not occur when the ganglia are completely extirpated; but Eckhardt does not say whether it does or not, and therefore Cyon determined to perform this operation, and thus test the truth of Eckhardt's theory. When he cut through the last cervical or the first dorsal ganglion, he found, like Eckhardt, that diabetes was produced; but it occurred just as certainly when both ganglia, or even the last cervical alone, were cut completely away, or when the nerve-fibres entering this ganglion were all cut through, although the ganglion itself was never touched. This clearly showed that Eckhardt was wrong, and that the diabetes occurring after operations on the last cervical or first thoracic ganglia was due to paralysis of the nerves which were connected with them, and not to irritation of the ganglia themselves. He next ascertained that all the fibres entering these ganglia had not the same effect in causing diabetes, for it occurred when either the branches which pass along the vertebral artery from the spinal cord to the last cervical ganglion, or the two fibres which connect it with the first thoracic ganglion, were divided, whereas section of the other nerves proceeding from the ganglion did not do so. It thus became evident that the nerve-fibres whose paralysis causes diabetes, come from the spinal cord through the vertebral nerves to the last cervical ganglion, and pass from it to the first dorsal in the two connecting branches which, in their course from one ganglion to another, enclose the subclavian artery, and form the annulus of Vieussens. So much having been ascertained, it would seem easy enough to trace the nervous path down the gangliated cord and splanchnics to the liver; and one would expect that, by dividing the cord in the thorax, and thus paralyzing the fibres going to the liver, diabetes would be produced as certainly as when they were divided at the level of the vertebral artery.

Such, however, was not the case; for not only did subcutaneous division of the gangliated cord between the tenth and twelfth ribs not produce diabetes, but, if the cord were cut before or at the same time as the last cervical or first thoracic ganglion, the diabetes which would otherwise have occurred did not appear. But when diabetes was first produced, division of the cord did not diminish it, or even hinder its increase, just as Bernard had found with regard to the splanchnics. In order to explain this apparently contradictory result, Cyon set about investigating the way in which the fibres of the annulus of Vieussens affect the liver, and more especially the circulation in it.

On irritating these fibres, he found that a number of fine white lines appeared round the lobules of the liver, in the position occupied by the small branches of the portal vein and hepatic artery; and these were so numerous as to produce the appearance of whitish spots on the organ, which continued while the irritation lasted, and disappeared after it ceased. At the same time that these spots appeared, he noticed that any cut or tear in the liver bled less freely than before. This indicated that contraction of the portal vein or hepatic artery, or of both, had been occasioned by irritation of the annulus; but, in order to make assurance doubly sure, as well as to find out whether it was the artery or the vein that contracted, he put a T-canula into the hepatic artery and connected it with a manometer. On then irritating the annulus of Vieussens, the pressure rose in the manometer as much as thirty to seventy *millimètres* of mercury; while in the carotid it only rose five to ten *millimètres*. To remove the last objection which might be raised, and show conclusively that the rise of pressure was due to contraction of the branches of the hepatic artery in the liver, and not to any other cause, he compressed the artery beyond the point where the canula had been inserted, so that no change in the calibre of its branches could have any influence on the blood-pressure in its trunk. On again irritating the annulus, he found that no alteration in the pressure was produced. Division of both annuli produced, as was to be expected, dilatation of the branches of the hepatic artery, and fall of the blood-pressure in it. When the portal vein was experimented on in the same manner, the pressure only rose ten or twelve *millimètres* during irritation; and he thinks this is probably due indirectly to the change in pressure in the artery.

These experiments completely prove that the vaso-motor nerves of the hepatic artery are contained in the annulus of Vieussens; that their division causes the vessel to dilate, and at the same time produces diabetes. The theory of Bernard, that the diabetes depends on the dilatation, and on the consequent rapid circulation of blood in the liver, is thus rendered in the highest degree probable. But why should section of the splanchnics or of the gangliated cord prevent the production of diabetes, but not remove it when present? This Cyon also explains. These parts of the nervous system contain the vaso-motor fibres for the vessels of the intestines; and, when they are cut, the vessels dilate, and blood accumulates in them to such an enormous extent that there is either too little blood remaining, or it is under too low a pressure for the circulation in the liver to become increased above its normal, even although its vessels be dilated. When the hepatic vessels, however, are dilated first, the blood continues to pass through them, and diabetes continues, even although the intestinal vessels have become relaxed.

The researches of Cyon, along with those of Bernard, render our knowledge of the part which the nervous system plays in influencing the production of sugar in the liver, and in causing diabetes, in so far as this disease depends on increased formation and not on diminished combustion, tolerably clear, though still incomplete; and enables us to form some kind of idea of the manner in which opium and allied remedies prove beneficial. The irritation which the inspired air produces on the ends of the vagi in the lungs is conveyed up these nerves to the medulla oblongata, and there exerts an inhibitory action on the vaso-motor nerves of the liver. When the irritation is increased, as by galvanizing the vagi, the inhibitory action is so great as to produce complete paralysis of the vaso-motor nerves, and induce diabetes; and, on the other hand, when the vagi are cut, the vaso-motor nerves act more powerfully, causing the vessels of the liver to contract, and the production

of sugar to diminish, as Bernard found that it did. It seems, therefore, not improbable that the beneficial action of opium and its alkaloids is due to their lessening the excitability of the vagus. We can hardly suppose, however, that diabetes is not sometimes due, either in whole or in part, to diminished combustion; and the causes of this still remain a matter for future investigation.

GLEANINGS FROM OUR EXCHANGES.

Popliteal Aneurism cured by Flexion in Three Days.—The *Bulletin de l'Académie Royale de Médecine de Belgique* (*British Medical Journal*, December 23) contains an account by Dr. Larondelle of the cure of a popliteal aneurism of the size of an orange. Dr. Larondelle adopted Mr. Ernest Hart's method of forced flexion of the leg upon the thigh. There was œdema of the foot and leg. The bandage employed was applied after the fashion recommended by Mr. Hart in his first paper in the *Medico-Chirurgical Transactions;* and the patient, as in his second published case, was allowed to walk about the room with the help of a crutch. The bandage was solidified by starch. The flexion seems to have been forced a little in excess. At the end of the second day, as the patient was complaining much of the pain, the bandage was removed. A second bandage was applied, and on the third day the tumor was found to be solidified. The cure thus effected was permanent; and the tumor, at the end of five months, was reduced to the dimensions of a small, hard kernel.

Force and Energy.—In some "Contributions on the Physiology and Therapeutics of Food," in the London *Lancet* for December 2, 1871, Dr. F. W. Pavy lays down the distinction between *energy* and *force*, as follows: "By 'force' in rigid signification is understood the power of producing 'energy;' by 'energy,' the power of performing work. To give an illustration: powder has force, the cannon-ball energy; but to speak of the force of the cannon-ball is inexact. I may also remark that the words 'actual' and 'potential' are in frequent use to qualify the state in which energy is met with. By actual energy is meant energy in an active state, energy which is doing work. By potential energy, energy at rest,—energy capable of doing work, but not doing it. In a bent cross-bow there is potential energy,—energy in a state of rest, but ready to become actual, or to manifest itself, when the trigger is pulled. Again, actual energy is evolved from the sun. By vegetable life this is made potential in the organic compounds formed. In these organic compounds the energy is stored up in a latent condition; potential energy is reconverted into actual energy when they undergo oxidation during combustion, or in their utilization in the animal economy."

Frequency of Ulcerations of the Larynx in Syphilis.—Jules Sommerbrodt (*L'Union Médicale*, December 2, 1871; from *Wiener Mediz. Presse*) has collected the following statistics in regard to the frequency of ulceration of the larynx in syphilis. Kühle has found ulceration of the larynx 15 times in 100 autopsies of syphilitic subjects, while Altenhofer has only met with it 25 times in 1200 patients. Gerhardt and Roth have observed it 18 times in 56 syphilitics, to wit: 11 times in 44 patients with secondary symptoms, and 7 times in 12 patients with tertiary symptoms. Lewin has found it in 44 patients out of 1000, and Engelsted in 25 out of 521. Out of 84 syphilitic patients observed by Sommerbrodt at the Allerheiligen Hospital, 15 presented ulcerations of the larynx in different stages, and 14 suffered from a catarrhal affection with hypertrophy of the mucous membrane. Moreover, in 238 patients affected with various diseases of the larynx, syphilis proved to be the predisposing condition in 45. This manifestation of the diathesis occurs at different periods after the infections. Turck observed it in a patient thirty years after the contraction of a chancre, and Frankl found it in an infant only two months old, in whom the first symptoms appeared a month after birth. Turck has observed it six months after infection; and Lewin, two or three months after the occurrence of the primary symptoms. The vocal cords are the parts most frequently affected. The left vocal cord is more often affected than the right, which, on the contrary, is the more usual seat of tubercular ulcerations.

Gunshot Wound of both Lungs and of the Right Auricle of the Heart.—Dr. J. B. Roberts reports in *The Richmond and Louisville Medical Journal* for December the following post-mortem appearances in a man who had run sixty yards and lived an hour after the reception of a gunshot wound. The ball entered the right cavity of the chest between the sixth and seventh ribs, fifteen inches downward and backward from the sterno-clavicular articulation, twelve inches from the median line in front. The ball passed through the middle of the right lung, through the anterior wall of the right auricle of the heart, cutting its way through the anterior part of the upper lobe of the left lung, and emerged from the body between the fourth and fifth ribs, about two inches below the left nipple.

Nucleated Blood-Cells in Leukæmia of Infants.—Dr. Neumann (New York *Medical Journal*, November, 1871; from *Archiv der Heilk.*, 71, xii., 1871) has assured himself of the presence of nucleated blood-cells during life, by puncturing with a needle for a drop of blood. Besides numerous colorless granular cells of 0.005–0.012 mm. in diameter, which under circumstances of health present no nuclei, there were found single homogeneous pale yellow cells of 0.006–0.008 mm. in diameter, with a colorless or spindle-shaped nucleus, or with numerous granules (remains of nuclei). By the addition of acetic acid these latter cells lost their color, and within their contour, which appeared as a fine circular line, the somewhat yellowish-tinged nuclei and granules stood out with a sort of fatty glitter. Dr. Neumann is inclined to regard the presence of these transition-forms between colorless and colored blood-cells, which are produced by the diseased marrow of the bones, as a diagnostic sign of disease of the marrow in leukæmia, since in a normal state they are found only in the marrow, and there is no evidence that in leukæmia they occur also in other organs, provided they are not carried into the same. In proof of this, he asserts that he has found nucleated cells in the general circulation of new-born infants at term, and not alone (as has already been made known) in the pancreas, spleen, liver, and bony marrow. How long they remain after birth is not certain; they were absent in a child which died of peritonitis sixteen days after birth.

Tricoptilose.—Under this name M. Devergie reports (*Annales de Dermatologie et de Syphiligraphie*, 3me année, No. 1) two cases of a disease of the hair which he believes has hitherto been undescribed. The scalp itself is unaffected, but the hair becomes dry and loses its glossiness, each hair presenting at several points fusiform enlargements. At the level of these enlargements two or three small filaments separate from the hair, their free extremities being directed sometimes upwards and sometimes downwards. As a consequence of this separation of the hair into filaments, it at length breaks. As the different hairs break off at different heights, and are divided into a number of interlaced filaments, the hair appears to be not only *crêpé* but tangled. No parasitic growth could be discovered either by M. Devergie or by M. Gubler. The only treatment which seemed to be of any use was the removal of the diseased hairs by the scissors and the employment of an ointment composed of turpeth mineral, butter of cocoa, and oil of sweet almonds. The name tricoptilose is given to the disease in consequence of the resemblance of the hairs affected by it to a feather.

The Influence of Alcohol on the Temperature of the Body.—Cuny Bouvier (*Centralblatt*, No. 51), after calling attention to the fact that destruction of the spinal cord in animals at the level of the sixth or seventh vertebra produces an elevation of temperature, which persists and may even be increased after death, says that this post-mortem elevation of the temperature may be prevented by the administration of alcohol. The use of alcohol enables animals in which pyæmic symptoms have been induced to resist the fever much longer than when it has not been employed, and it will be remembered that in animals narcotized by alcohol no fever is excited by the subcutaneous injection of putrid matter.

Aneurism of Basilar Artery.—Dr. Loomis exhibited at a meeting of the New York Pathological Society (*The Medical Record*, January 2) a specimen taken from an unmarried German, 29 years of age, who was admitted into Bellevue Hospital on the 1st of last September. He was perfec tly well for three or four years, until about two months before he sought relief, when he noticed a sensation of numbness on the left side of the face, and a loss of hearing in his left ear. He also noticed that the saliva dribbled from the left corner of his mouth, and that he was unable to swallow food from the left side of his mouth, and was compelled to push it in on the other side with his finger. At the time of admission his general condition was very good, but, aside from the symptoms already noticed, there was a loss of the sense of taste on the left side. Physical examination gave negative results. There was no paralysis of any parts of his body save those mentioned. On the 16th of September he was seized with vomiting, after which he partially lost his power of walking, and within a few days after he lost his power of speech and died. The day previous to death, bronchial râles appeared on auscultation.

At the autopsy all the thoracic organs were found healthy except the lower lobe of the right lung, which was congested. The liver was slightly cirrhosed, and contained a deep fibrous cicatrix, which was evidently of syphilitic origin. No other evidences of syphilis were apparent, either before or after death.

On opening the cranium, all the membranes were intensely congested. At the base of the brain was an aneurism about the size of a pigeon's egg, springing from the basilar artery, which pressed upon the medulla and upon the pons. The other arteries at the base of the brain were in an atheromatous condition. Dr. L. stated that he had looked over the literature of aneurism of that locality, but had only succeeded in finding a similar one, and that was detailed in Reynolds' System of Medicine, vol. iii.

[Very similar cases will be found tabulated in the Pennsylvania Hospital Reports, vol. ii., and in the Guy's Hospital Report, vol. v. 3d series.—Ed.]

Tattooed from Head to Foot.—The *British Medical Journal* of November 4 contains an account of a remarkable instance of tattooing of the whole body. According to his own account, the man, a Greek by birth, had been a pirate, and had also carried on brigandage on the continent. Seven years ago, he and five companions were taken prisoners by one of the wild tribes of Asia. Three of them were put to death, but this man, with two others, was preserved alive and literally tattooed over the entire body. The operation lasted two months, and was performed by six men, who each day operated on different parts of the body. The proceeding caused horrible pain, and his two companions died under the treatment. His body is covered from head to foot with delineations of men, animals, and fabulous things. The coloring material used for the figures appears to be indigo, the ground, especially on the chest and abdomen, being vermilion; here and there about a line's breadth of the normal color of the skin can be seen. The hands and the soles of the feet are colored red, but have no figures. On the face and neck are inscriptions in characters resembling Arabic. The skin has the general appearance, to the sight and touch, of bluish-gray velvet. He attends the General Hospital in Vienna; and Professor Hebra, who showed him to his class a short time ago, has had him photographed in various attitudes.

Strychnia in Albuminuria.—Brignoli (*British Medical Journal*, October 28; from *La Sperimentale*), besides recommending nux vomica in various neuroses, gastralgia, dyspepsia, cardiac palpitations, periodic cough, etc., states that he has observed it to have a marked effect in retarding the progress of albuminuria, especially the scarlatinal form with anasarca. He cites twelve cases of complete recovery.

The Placenta in Multiple Births.—Professor Hyrtl (*Baltimore Medical Journal and Bulletin*, October, 1871), from a comparison of a large number of injected placentæ, has established a very interesting fact, namely, that whenever twins are of the same sex the vessels of the two umbilical cords are invariably found to anastomose in the placenta, and that when the sex is different this is never the case. In the large number of cases which he has examined he has never once found an exception to this rule. Where there are three children, if one be of different sex from the others the vessels of this child will be distinct, while those of the other two anastomose. If the sex of all be the same, however, this distinction is not present. Where he found two separate placentæ, the children always differed in sex.

Stone in the Bladder with a Nucleus of Bone.—Dr. B. B. Leonard reports the following case in the *Cincinnati Lancet and Observer* (*The Boston Medical and Surgical Journal*, January 4): A boy about 15 years of age presented symptoms of stone, which after some difficulty was detected by a sound of more than ordinary curve. On attempting to remove the stone, it was found firmly imbedded in the wall of the bladder, and almost covered with firm membrane. So firm and strong were the adhesions that much force was required to dislodge the calculus, which was too large for removal intact. Crushing was immediately effected, and fragments weighing three and a half ounces were removed. When the staff was withdrawn, a fragment of bone half an inch long and three lines wide was found lodged in the groove. As the boy had suffered when seven years old from necrosis of the femur, it was thought that a fragment of bone had penetrated the bladder and formed a nucleus around which the calcareous deposit had accumulated; and an examination of the fragments showed this to be the fact.

MISCELLANY.

A New Work by the late Professor Dunglison.—Messrs. Lindsay & Blakiston announce that they will shortly publish a work entitled "A History of Medicine from the Earliest Ages to the Commencement of the Nineteenth Century," by Robley Dunglison, M.D., LL.D., late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. The prospectus tells us that, while occupying a professorial chair in the University of Virginia, it became Prof. Dunglison's duty, according to the terms of his appointment, "to teach to the best of his ability, and with due diligence, Anatomy, Surgery, the History of the Progress and Theories of Medicine, Physiology, Materia Medica, and Pharmacy." The full and complete manuscript of his historical lectures, as there delivered, forming a continuous and interesting narrative of events from the earliest origin of medicine to the beginning of the nineteenth century, has been carefully revised for publication by his son, Dr. Richard J. Dunglison, who, deeming it expedient to abandon their original didactic form, has made such slight alterations of the text as seemed necessary to embody the facts presented in the regular book form.

It will be issued in a small octavo volume of about 250 pages, printed on tinted paper, handsomely bound in cloth, bevelled boards. The price to subscribers will be two dollars and a half.

Meteorological.—The highest temperature observed during the month of January was 48° F., on the 1st; the lowest was 10°, on the 30th. The mean temperature of the month was 30°.97 F. The average of means since 1790 is 31°.67. The coldest January on record in this city was in 1857, when the mean temperature was only 22°.37; the warmest was in 1790, when it reached 44°. The coldest temperature recorded of late years was 9°.5 below zero, on the 8th of January, 1866.

Snow fell on five different days, and rain on three days only; the total rainfall, including melted snow, reaching 1.27 inches, against 3.47 inches in January, 1871, and an average of 3.28 inches for the month during the past thirty-five years.

PRECAUTIONARY MEASURES AGAINST THE EXTENSION OF SMALLPOX.—The *British Medical Journal* says, "We have before us some particulars of a disgraceful and disgusting affair at Bridgewater. A baker was convicted of selling bread from his shop, his son, who was employed in making the bread, being actually at the time suffering from smallpox and covered with pustules. The disgusting and wicked offence was proved, and a fine of £10 was inflicted." We should be very glad indeed to think that a similar offence in Philadelphia would meet with an equally severe punishment. We doubt very much whether the authorities have taken any steps to prevent trading at houses where the disease actually exists; while many instances of great individual carelessness in regard to the spread of the contagion have come to our knowledge.

THE SENTENCE OF A PHYSICIAN IN 1744.—We take the following from *L'Union Médicale* for December 30:—"Arnauld de Ronsil, a celebrated operator for hernia, was sentenced to undergo the following punishment: 'To make, with his two accomplices, the *amende honorable*, to be whipped, to be branded, and to be sent to the galleys for life.'"

JOURNALISTIC CHANGES.—The *Dublin Journal*, which has up to the beginning of the present year been a quarterly journal, is hereafter to be issued on the 1st of every month.

The January number of the Chicago *Medical Examiner* comes to us in a new form, and is in future to be published on the 1st and 15th of every month.

The *St. Louis Medical and Surgical Journal* will in the future be published monthly, instead of bi-monthly as heretofore. Drs. William S. Edgar and H. Z. Gill are the new editors.

Dr. S. C. Busey and Dr. William Lee announce that they have relinquished their connection as editors with the *National Medical Journal*. "They have been driven to this course by the action of the publishers, Messrs. Judd & Detweiler, who, as proprietors, saw fit to insist upon the insertion of an article which, *in the shape presented*, did not meet with the approval of the editors." The publishers propose to edit and issue the unfinished February number under their own management, purely as printers.

AID FOR CHICAGO.—Dr. Gustav Simon, Professor of Surgery in Heidelberg, and Dr. O. Becker, Professor of Ophthalmology, have issued an address to the medical profession in Germany, soliciting aid in behalf of the medical practitioners of Chicago who have suffered by the recent fire in that city.

COMPULSORY VACCINATION.—We have been requested to insert the following:

"At the suggestion of the Special Committee on Meteorology and Epidemics of the Philadelphia County Medical Society, a Committee was appointed by the Medical Society of the State of Pennsylvania, at its last meeting, to urge upon the State Legislature the importance of making vaccination compulsory throughout its limits, and to frame a bill for the purpose. In pursuance of this most desirable object, the Committee would receive most gratefully any assistance that members of the Society may be willing to render, whether in the way of personal suggestion, or of documents pertaining to the subject, such as copies of the laws of foreign nations, local enactments in our own country, etc.

"On behalf of the Committee,

"BENJAMIN LEE,

"1503 Spruce Street."

RUSH MEDICAL COLLEGE, CHICAGO: SPRING COURSE FOR 1872.—The Rush Medical College building having been destroyed by the great fire, the Faculty, in order to maintain the interests of the College and to preserve its advantages to students of medicine, have secured the lecture- and clinic-rooms of the Cook County Hospital in which to hold the usual Spring Course. The session will begin Wednesday, March 6, and will continue to June 26,—sixteen weeks.

MORTALITY FROM SMALLPOX.—The number of deaths from smallpox in Philadelphia during the weeks ending January 27 and February 3, 1872, were 335, of which 201 were of minors.

MORTALITY OF PHILADELPHIA.—The following reports are condensed from the records at the Health Office:

	For the week ending Jan. 27.	Feb. 3.
Consumption	45	39
Other Diseases of Respiratory Organs	46	49
Diseases of Organs of Circulation	12	18
Diseases of Brain and Nervous System	57	44
Diseases of the Digestive Organs	23	18
Diseases of the Genito-Urinary Organs	11	6
Zymotic Diseases	201	180
Cancer	3	7
Casualties	11	8
Debility	27	29
Intemperance	4	1
Old Age	14	25
Scrofula	1	0
Stillborn	24	14
Suicide	2	0
Syphilis	0	0
Tumors	1	2
Unknown	3	2
Unclassifiable	15	9
Totals	500	451
Adults	243	233
Minors	257	218

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 19, 1872, TO FEBRUARY 4, 1872, INCLUSIVE.

PETERS, DE WITT C., SURGEON.—By S. O. 16, Department of the South, January 23, 1872, assigned to duty at Lexington, Ky.

STORROW, S. A., ASSISTANT-SURGEON.—By S. O. 19, War Department, A. G. O., January 23, 1872, relieved at Fort Jefferson, Fla., and to proceed to Philadelphia, Pa., reporting thence by letter to the Surgeon-General.

HUBBARD, VAN BUREN, ASSISTANT-SURGEON.—By S. O. 19, War Department, A. G. O., January 23, 1872, relieved from duty at the U.S. Military Academy, West Point, N.Y., and assigned to duty at Fort Jefferson, Fla.

BREWER, J. W., ASSISTANT-SURGEON.—By S. O. 17, Department of the Missouri, January 29, 1872, to return to Fort Larned, Kansas, and resume his duties at that post.

KOERPER, EGON A., ASSISTANT-SURGEON.—By S. O. 5, Department of Texas, January 9, 1872, granted leave of absence for thirty days, with permission to leave the limits of the Department.

GIRARD, JOS. B., ASSISTANT-SURGEON.—By S. O. 22, War Department, A. G. O., January 26, 1872, assigned to temporary duty at Newport Barracks, Ky.

WILSON, W. J., ASSISTANT-SURGEON.—By S. O. 15, District of New Mexico, January 25, 1872, assigned to duty at Fort Selden, N.M.

FITZGERALD, J. A., ASSISTANT-SURGEON.—By S. O. 19, War Department, A. G. O. January 23, 1872, assigned to duty at the U.S. Military Academy, West Point, N.Y.

MOFFATT, P., ASSISTANT-SURGEON.—By S. O. 28, War Department, A. G. O., February 2, 1872, granted leave of absence for thirty days.

CORSON, J. K., ASSISTANT-SURGEON.—By S. O. 11, Department of the Platte, January 20, 1872, granted leave of absence for thirty days, with permission to apply for an extension of thirty days.